NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

Preliminary Findings Regarding the Renewal of a
Part 70 Operating Permit

for Grain Processing Corporation in Daviess County
Part 70 Operating Permit Renewal No.: T027-42694-00046

The Indiana Department of Environmental Management (IDEM) has received an application from Grain Processing Corporation located at 1443 S 300 W, Washington, Indiana 47501 for a renewal of its Part 70 Operating Permit issued on December 22, 2015. If approved by IDEM’s Office of Air Quality (OAQ), this proposed renewal would allow Grain Processing Corporation to continue to operate its existing source.

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 have been sent to:

Washington Carnegie Public Library
300 W Main St
Washington, IN 47501

and

IDEM Southwest Regional Office
114 South 7th Street
P.O. Box 128
Petersburg, IN 47567-0128

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

A copy of the application and preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC). To access 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 T027-42694-00046 in all correspondence.

Comments should be sent to:

Tamera Wessel  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Tamera Wessel  
Or dial directly: (317) 234-8530  
Fax: (317) 232-6749 attn: Tamera Wessel  
E-mail: twessel@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 and will also be sent to the local library indicated above, the IDEM Regional Office indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

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

Heath Hartley, Section Chief  
Permits Branch  
Office of Air Quality
Grain Processing Corporation
1443 S 300 W
Washington, Indiana 47501

(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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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.

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<tr>
<th>Source Address:</th>
<th>1443 S 300 W, Washington, Indiana 47501</th>
</tr>
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<tbody>
<tr>
<td>General Source Phone Number:</td>
<td>812-257-2749</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2046 (Wet Corn Milling)</td>
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<tr>
<td></td>
<td>2048 (Prepared Feed and Feed Ingredients for Animals and Fowls, Except Dogs and Cats)</td>
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<tr>
<td></td>
<td>2085 (Distilled and Blended Liquors)</td>
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<tr>
<td></td>
<td>2099 (Food Preparations, Not Elsewhere Classified)</td>
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<td></td>
<td>2869 (Industrial Organic Chemicals, Not Elsewhere Classified)</td>
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<td>County Location:</td>
<td>Daviess Outside Veale Township</td>
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<td>Source Location Status:</td>
<td>Attainment for all criteria pollutants</td>
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<td>Source Status:</td>
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<td>Major Source, Section 112 of the Clean Air Act</td>
</tr>
<tr>
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<td>Not 1 of 28 Source Categories</td>
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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) One (1) Corn Processing Operation, consisting of:

(1) One (1) Truck and Railcar Corn Unloading Process, installed in March 2000, consisting of:

(A) One (1) Truck/Railcar Unloading Pit and one (1) Truck Unloading Pit, each equipped with one (1) totally enclosed Drag Pit Conveyor System, unloading corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01 (Grain Unloading Baghouse), with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed Truck and Railcar Corn Unloading Process Discharge Conveyor System, conveying corn received from the Truck/Railcar and/or Truck Unloading Drag Pit Conveyor Systems to the Corn Storage Silo System at a nominal design rate of 855,000 pounds per hour.

(2) One (1) Corn Storage System, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F, with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the Truck and Railcar Corn
Unloading Process Discharge Conveyor System, with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(3) One (1) Corn Cleaning Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Corn Storage System Receiving Conveyor System, conveying corn received from the Corn Storage System to the Corn Cleaning System at a nominal design rate of 560,000 pounds per hour.

(B) One (1) Corn Cleaning System, cleaning corn received from the Corn Storage System Receiving Conveyor System at a nominal design rate of 560,000 pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed Corn Cleaning Process Discharge Conveyor System, conveying corn received from the Corn Cleaning System to the Corn Steeping Tank System at a nominal design rate of 560,000 pounds per hour.

(4) One (1) Corn Steeping Process, installed in March 2000 modified in 2008, consisting of:

(A) One (1) Corn Steeping Tank System, installed in 2000, with two (2) additional steep tanks installed in 2008, softening corn received from the Corn Cleaning Process Discharge Conveyor System at a nominal design rate of 560,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed Corn Steeping Tank System Discharge Conveyor System, conveying steeped corn received from the Corn Steeping Tank System to the Steeped Corn Dewatering System at a nominal design rate of 321,000 pounds per hour.

(C) One (1) Steeped Corn Dewatering System, consisting of two (2) Dewatering Screens, separating water from the softened corn received from the Corn Steeping Tank System Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.

(D) One (1) totally enclosed Steeped Corn Discharge Conveyor System, conveying steeped corn received from the Steeped Corn Dewatering System to the Corn Germ, Fiber, Gluten, and Starch Separation Process Primary Mill Area at a nominal design rate of 168,000 pounds per hour.

(E) One (1) totally enclosed Steep Water Discharge Conveyor System, conveying steep water received from the Steeped Corn Dewatering System to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 100,000 pounds per hour and/or Corn Steep and
Alcohol Stillage Evaporation System at a nominal design rate of 50,000 pounds per hour.

(5) One (1) Corn Germ, Fiber, Gluten, and Starch Separation Process, installed in March 2000 and modified in 2008, milling corn received from the Steeped Corn Discharge Conveyor System, consisting of:

(A) One (1) Primary Milling System, consisting of:

(i) One (1) Primary Mill Area, grinding softened corn and supplemental water received from the Steeped Corn Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Primary Milling System Discharge Conveyor System, conveying milled corn received from the Primary Mill Area to the Germ Separation Area at a nominal design rate of 321,000 pounds per hour.

(B) One (1) Germ Separation System, consisting of:

(i) One (1) Germ Separation Area, separating germ from the corn received from the Primary Milling System Discharge Conveyor System at nominal design rate of 321,000 pounds per hour, yielding a maximum of 36,000 pounds of germ per hour and 285,000 pounds of remnant corn, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Germ Separation System Germ Discharge Conveyor System, conveying germ received from the Germ Separation Area to the Germ Dryer at a nominal design rate of 36,000 pounds per hour.

(iii) One totally enclosed Germ Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Germ Separation Area to the Secondary Milling System at a nominal design rate of 285,000 pounds per hour.

(C) One (1) Secondary Milling System, consisting of:

(i) One (1) Secondary Milling Area, grinding softened corn remnants received from the Germ Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 285,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Secondary Milling System Discharge Conveyor System, conveying milled corn remnants received from the Secondary Milling Area to the Fiber Separation Area at a nominal design rate of 285,000 pounds per hour.
(D) One (1) Fiber Separation System, consisting of:

(i) One (1) Fiber Separation Area, separating fiber received from the Secondary Milling System Discharge Conveyor System at a nominal design rate of 285,000 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 115,000 pounds of fiber per hour and 372,500 pounds of remnant corn per hour, with particulate and SO2 emissions from the separation process controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Fiber Separation System Fiber Discharge Conveyor System, conveying fiber received from the Fiber Separation Area to the Corn Gluten Feed Dryer at a nominal design rate of 115,000 pounds per hour.

(iii) One (1) totally enclosed Fiber Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Fiber Separation Area to the Starch and Gluten Separation Area at a nominal design rate of 372,500 pounds per hour.

(E) One (1) Starch and Gluten Separation System, consisting of:

(i) One (1) Starch and Gluten Separation Area, separating starch and gluten from the softened corn remnants received from the Fiber Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 372,500 pounds per hour, yielding a maximum of 338,750 pounds of starch per hour and 33,750 pounds of gluten per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Starch and Gluten Separation System Starch Discharge Conveyor System, conveying starch and supplemental water received from the Starch and Gluten Separation Area to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 306,400 pounds per hour, Starch Production Process Starch Reactors at a nominal design rate of 60,000 pounds per hour, and/or Maltodextrin Production Process at a nominal design rate of 65,800 pounds per hour.

(iii) One (1) totally enclosed Starch and Gluten Separation System Gluten Discharge Conveyor System, consisting of two (2) totally enclosed conveyors, conveying gluten received from the Starch and Gluten Separation Area to the Gluten Dryers at a nominal design rate of 33,750 pounds per hour.

(6) One (1) Germ Production Process, installed in March 2000 and modified in 2008, and approved in 2020 for modification, consisting of:

(A) One (1) Germ Drying System, consisting of:
(i) One (1) 17 MMBtu/hr natural gas and/or biogas fired Germ Dryer (re-permitted in 2015), drying germ received from the Germ Separation System Germ Discharge Conveyor System at a nominal design rate of 36,000 pounds per hour, yielding a maximum of 18,000 pounds of germ per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC12 (Germ Dryer Scrubber); particulate emissions are further controlled by WESP FPC32; combustion NOx emissions are controlled by a steam injection system; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(ii) One (1) totally enclosed Germ Dryer Discharge Conveyor System, conveying germ received from the Germ Dryer to the Germ Transport System at a nominal design rate of 18,000 pounds per hour.

(B) One (1) totally enclosed Germ Transport System, conveying germ received from the Germ Dryer Discharge Conveyor System to the Germ Storage Bin at a nominal design rate of 18,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10 (Germ Transport Baghouse), with all emissions exhausted through Stack FP10.

(C) One (1) Germ Storage Bin, with a nominal design storage capacity of 160 tons, storing germ received from the Germ Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11 (Germ Storage Bin Vent), with all emissions exhausted through Stack FP11.

(7) One (1) Corn Gluten Feed (CGF) Production Process, installed in March 2000, consisting of:

(A) One (1) Corn Steep and Alcohol Stillage Evaporation System, consisting of:

(i) One (1) Supplemental Corn Gluten Feed Evaporation System, evaporating off excess water from the Steep System and Alcohol Distillation Still Bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber system, identified as APC40 (MR Scrubber), installed in 2003, with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, conveying supplemental gluten feed syrup received from the Supplemental Corn Gluten Feed Evaporation System to the Corn Gluten Feed Dryer at a nominal design rate of 5,000 pounds per hour.
(B) One (1) Corn Storage Process Supplemental Corn Gluten Feed System, consisting of one (1) totally enclosed Corn Storage Process Supplemental Corn Gluten Feed Conveyor System, conveying supplemental corn gluten feed collected by the Corn Receiving Transfer Dust Collector, identified as FPC05, and the Grain Unloading Baghouse, identified as CPC01, to the Corn Gluten Feed Dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as (Corn Cleaning Transfer Baghouse), with all emissions exhausted through stack FP20.

(C) One (1) 93 MMBtu/hr natural gas fired Corn Gluten Feed (CGF) dryer (re-permitted in 2015), drying wet corn gluten feed received from the Fiber Separation System Fiber Discharge Conveyor System, Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, and Corn Storage Process Supplemental Corn Gluten Feed Conveyor System at a combined nominal design rate of 115,000 pounds per hour, yielding a maximum of 52,000 pounds of dried corn gluten feed per hour. Modified in 2008, with the addition of a flue gas recirculation system for NOx control. Approved in 2020 for modification, for a replacement scrubber.

Process and combustion particulate and SO2 emissions are controlled by scrubber FPC16 (2-Tray Tower Condensing Scrubber); particulate emissions are further controlled by WESP FPC 32; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(D) One (1) totally enclosed Corn Gluten Feed Transport System, conveying corn gluten feed received from the Corn Gluten Feed Dryer to the Corn Gluten Feed Storage Bin at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18 (Fiber Cooling Baghouse), with all emissions exhausted through Stack FP18.

(E) One (1) Corn Gluten Feed Storage System, consisting of:

(i) One (1) Corn Gluten Feed Storage Bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the Corn Gluten Feed Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22 (CGF Fiber Storage Bin Vent), with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed Corn Gluten Feed Storage System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Storage Bin to the Corn Gluten Feed Final Milling Area at a nominal design rate of 52,000 pounds per hour.

(F) One (1) Corn Gluten Feed Final Mill System, consisting of:

(i) One (1) Corn Gluten Feed Final Milling Area, milling corn gluten feed received from the Corn Gluten Feed Storage System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1)
baghouse, identified as FPC19 (Cage Mill Baghouse) (approved in 2011 for replacement), with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed Corn Gluten Feed Final Mill System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Final Milling Area to the Corn Gluten Feed Loadout System at a nominal design rate of 52,000 pounds per hour, and/or the Pellet Mill at a nominal design rate of 52,000 pounds per hour.

(8) One (1) Gluten Production Process, installed in March 2000, consisting of:

(A) Two (2) natural gas and/or biogas fired Gluten Dryers, one (1) 32 MMBtu/hr dryer installed in 2000 (Gluten #1 Dryer) and one (1) 23 MMBtu/hr dryer installed in 2008, modified in 2011, and re-permitted in 2015 (Gluten #2 Dryer), drying gluten received from the Starch and Gluten Separation System Gluten Discharge Conveyor System at a maximum rate of 33,750 pounds per hour, yielding a maximum of 15,000 pounds of dried gluten per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC13; particulate emissions are further controlled by WESP FPC32; combustion NOx emissions from Glu- ten Dryer No. 1 are controlled by a steam injection system and combustion NOx emissions from Glu- ten Dryer No. 2 are controlled by a low-NOx burner and flue gas recirculation; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(B) One (1) totally enclosed Gluten Transport System, conveying gluten received from the Gluten Dryers to the Gluten Storage Bin at a nominal design rate of 15,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14 (Gluten Transport Baghouse), with all emissions exhausted through Stack FP14.

(C) One (1) Gluten Storage system, consisting of:

(i) One (1) Gluten Storage Bin, with a nominal design capacity of 200 tons, storing dried gluten received from the Gluten Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15 (Gluten Storage Bin Vent), with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed Gluten Storage System Discharge Conveyor System, conveying gluten received from the Gluten Storage Bin to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Transfer Conveyor System at a nominal design rate of 180,000 pounds per hour.

(9) Two (2) RTOs, identified as FPC34a and FPC34b, installed in 2008, each with a burner capacity of 30 MMBtu/hr, each with the capability of firing natural gas or biogas, controlling particulate, VOC and CO emissions from the Germ Dryer, CGF Dryer, Gluten #1 Dryer, and Gluten #2 Dryer, with all emissions exhausting through Stack FP34.
(10) One (1) Corn Gluten Feed Pellet Production Process, installed in March 2000, consisting of:

(A) One (1) Pellet Milling System, consisting of:

(i) One (1) Pellet Mill, producing corn gluten feed pellets from corn gluten feed received from the Corn Gluten Feed Final Mill System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour.

(ii) One (1) totally enclosed Pellet Milling System Discharge Conveyor System, conveying corn gluten feed pellets received from the Pellet Mill to the Pellet Cooler at a nominal design rate of 52,000 pounds per hour.

(B) One (1) Pellet Cooling System, consisting of:

(i) One (1) Pellet Cooler, cooling corn gluten pellets received from the Pellet Milling System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, discharging to cyclone FPC24 (Pellet Cooler Cyclone), with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed Pellet Cooling System Discharge Conveyor System, conveying pellets received from the Pellet Cooler to the Pellet Storage Bin at a nominal design rate of 52,000 pounds per hour.

(C) One (1) Pellet Storage Bin with a nominal design storage capacity of 240 tons, storing pellets received from the Pellet Cooling System Discharge Conveyor System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC25 (Pellet Storage Bin Vent), with all emissions exhausted through Stack FP25.

(11) One (1) Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System, conveying product received from the Storage Bins to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28 (Germ/Gluten Transfer Baghouse), with all emissions exhausted through Stack FP28.

(B) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System, loading germ, gluten, corn gluten feed and corn gluten feed pellet received from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1)
(12) One (1) Alcohol Production Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Starch Cooker and Precooker Tank, the Starch Cooker heats liquefied starch received from the Precooker Tank at a nominal design rate of 306,400 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 306,400 pounds per hour.

(B) One (1) Flash Cooling System, cooling fermentable sugars received from the Starch Cooker, steep water from the Steep System, and stillage from the Distillation Still Bases at a combined nominal design rate of 507,600 pounds per hour, yielding a maximum of 507,600 pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) Secondary Liquefaction Tank, with all emissions routed through one (1) scrubber, identified as APC31 (Intercondenser Scrubber) for SO2 control, exhausted through Stack AP31.

(C) One (1) Alcohol Fermentation System, consisting of:

(i) Two (2) Pre-Fermenters, fermenting sugars received from the Flash Cooling System at a nominal design rate of 558,360 pounds per hour, yielding a maximum of 558,360 pounds of fermenter feed per hour, identified as APC28 (Pre-Fermenter Scrubber), that is used for product recovery, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(ii) One (1) Fermentation System, fermenting sugars received from the Flash Cooling System and Pre-Fermenters, yielding a maximum of 500,000 pounds of distillation feed per hour, with VOC and SO2 emissions controlled by one (1) wet scrubber, identified as APC29 (Fermentation Scrubber), and one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

The RTO APC30, installed in 2014, is fueled by natural gas, with a burner heat input capacity of 8 MMBtu/hr.

(D) One (1) Vacuum Degasification Column, constructed in 2015, receiving 500,000 pounds of distillation feed per hour from the Fermentation System to process prior to the Distillation System, with SO2 emissions controlled by one (1) wet scrubber, identified as APC34 (Vacuum Degasification Scrubber), and with VOC and Acetaldehyde emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(E) One (1) Alcohol Distillation System, modified in 2015, consisting of:

(i) One (1) Distillation System, processing distillation feed received from the Alcohol Fermentation System or the Vacuum Degasification Column at a nominal design rate of 500,000 pounds per hour, yielding a maximum of 63,000 pounds of crude alcohol per hour and 437,000 pounds of excess corn gluten feed
(stillage) per hour, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed (stillage) Discharge Conveyor System, conveying supplemental corn gluten feed received from the Alcohol Distillation System to the Supplemental Corn Gluten Feed System Evaporation System at a nominal design rate of 437,000 pounds per hour.

(F) One (1) Alcohol Storage System, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the Alcohol Distillation System, consisting of:

(i) Beverage Alcohol Storage, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30, including the following tanks:

(a) Three (3) 190 proof day lot tanks (#1-3), identified as TK-106-001, TK-106-002, and TK-106-003.

(b) One (1) 190 proof reject tank, identified as TK-106-004.

(c) Four (4) 190 proof warehouse tanks (#1-4), identified as TK-106-005, TK-106-006, TK-106-007, and TK-106-008.

(d) Two (2) 190 proof industrial warehouse tanks (#1-2), identified as TK-106-031 and TK-106-032.

(e) One (1) 200 proof reject tank, identified as TK-106-013.

(f) One (1) purification feed tank, identified as TK-106-016.

(g) Three (3) alcohol storage tanks, constructed in 2018

(1) Two (2) 41,800 gallon day lot tanks
(2) One (1) 100,000 gallon warehouse tank

(ii) Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:

(a) Three (3) 200 proof day lot tanks (#1-3), identified as TK-106-010, TK-106-011, and TK-106-012, each with a capacity of 41,800 gallons.

(b) Two (2) 200 proof warehouse tanks (#1-2), identified as TK-106-014 and TK-106-015, each with a capacity of 450,000 gallons.

Under 40 CFR 60, Subpart Kb, these are considered affected facilities.
(iii) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

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

(G) Two (2) 51,700 gallon above ground vertical distillation heads storage tanks, identified as Tank AP83 (Heads Tank #2) (permitted in 2011) and Tank AP84 (Heads Tank), storing distillation products received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stacks AP83 and AP84, respectively.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(H) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94 (Burn Tank), storing miscellaneous non-beverage grade alcohol received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(I) One (1) Denaturant Storage Tank System, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85 (Denaturant Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86 (Denaturant Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87 (Denaturant Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88 (Denaturant Tank #4), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88.

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89 (Denaturant Mix Tank #2), with VOC
emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89.

(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90 (Denaturant Mix Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90.

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91 (Denaturant Mix Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91.

(viii) One (1) 13,500 gallon above ground vertical storage tank, identified as Tank AP82 (Denaturant Tank #5), installed in 2011, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP82.

(J) One (1) Alcohol and Distillation Products Loadout Area, consisting of:

(i) One (1) Alcohol Loadout System, loading beverage/industrial or anhydrous alcohol received from the Alcohol Storage System into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(ii) One (1) Distillation Products Loadout System, loading distillation products received from Tanks AP83, AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(iii) One (1) Denaturant Delivery System, delivering denaturant received from the Denaturant Storage Tank System to the Alcohol Loadout System when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), with all non-fugitive emissions exhausted through Stack AP97.

The enclosed flare APC97, installed in 2011, is fueled by natural gas, with a pilot gas flare heat input capacity of 12 MMBtu/hr.

(13) One (1) Starch Production Process, installed in March 2000, consisting of:

(A) One (1) Starch Reactor System, consisting of:

(i) Eight (8) Starch Reactors, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through eight stacks collectively identified as SP46.

(ii) One (1) Starch Reactor Dry Soda Ash Feed System, consisting of:
(a) One (1) Soda Ash Storage Bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the Starch Reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64 (Soda Ash Bin Vent), with all emissions exhausted through Stack SP64.

(b) One (1) totally enclosed Soda Ash Discharge Conveyor System, delivering soda ash received from the Soda Ash Storage Bin to the Starch Reactors.

(c) One (1) totally enclosed Starch Reactor System Starch Discharge Conveyor System, conveying processed starch received from the Starch Reactors to the Starch Filtration System at a nominal design rate of 60,000 pounds per hour.

(B) One (1) Starch Filtration System, consisting of:

(i) Two (2) Starch Filters, refining processed starch received from the Starch Reactor System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour.

(ii) One (1) totally enclosed Starch Filtration System Discharge Conveyor System, conveying refined starch received from the Starch Filters to the Starch Dryer at a nominal design rate of 56,000 pounds per hour.

(C) One (1) Starch Drying System consisting of:

(i) One (1) 31 MMBtu/hr natural gas Starch Dryer, drying refined starch received from the Starch Filtration System Discharge Conveyor System at a nominal design rate of 56,000 pounds per hour, with the process and combustion particulate emissions controlled by one (1) wet scrubber, identified as SPC49 (Starch Dryer Scrubber), with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed Starch Drying System Discharge Conveyor System, conveying dried starch received from the Starch Dryer to the Starch Storage System at a nominal design rate of 30,000 pounds per hour.

(D) One (1) Starch Storage System, consisting of four (4) Starch Storage Bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the Starch Drying System Discharge Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as SPC50 (Starch Product Blending Bin Vents), with all emissions exhausted through four stacks collectively identified as SP50.

(E) One (1) totally enclosed Starch Loadout System, conveying starch received from the Starch Storage System into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a (Starch Loadout Receiver Baghouse), and fugitive particulate
emissions controlled by one (1) dust collector identified as SPC44b (Starch Loadout Dust Collector), with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(14) One (1) Maltodextrin Production Process, installed in March 2000 and modified in 2015, consisting of:

(A) One (1) Maltodextrin Cooking System, consisting of:

(i) One (1) Maltodextrin Cooker, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 65,770 pounds per hour and 38,660 pounds of water per hour, yielding 104,430 pounds of crude Maltodextrin per hour.

(ii) One totally enclosed Maltodextrin Cooking System Discharge Conveyor System, conveying crude Maltodextrin received from the Maltodextrin Cooker to the Maltodextrin Filtration System at a nominal design rate of 104,430 pounds per hour.

(B) One (1) Maltodextrin Filtration System, consisting of:

(i) One (1) Maltodextrin Filter, refining crude Maltodextrin received from the Maltodextrin Cooking System Discharge Conveyor System at a nominal design rate of 51,690 pounds per hour.

(ii) One (1) Filtration System Dry Carbon Feed System, consisting of:

(a) One (1) Dry Carbon Storage Bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the Maltodextrin Filtration System at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61 (Carbon Bin Vent), with all emissions exhausted through Stack MP61.

(b) One (1) totally enclosed Carbon Discharge Conveyor System, delivering carbon received from the Carbon Storage Bin to the Filtration System.

(iii) One (1) Filtration Aid System, consisting of:

(a) Two (2) Filter Aid Storage Bins with a total nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltodextrin Filtration System, with particulate emissions controlled by two (2) bin vent collectors, identified as MPC60 (Filter Aid Bin Vent), with emissions exhausted through Stack MP60. Filter aid is only unloaded into one (1) filter aid bin at a time.

(b) One (1) totally enclosed Filter Aid Discharge Conveyor System, delivering filter aid received from the Filter Aid Storage Bins to the Maltodextrin Filtration System.
(iv) One (1) totally enclosed Maltodextrin Filtration System Discharge Conveyor System, conveying refined Maltodextrin from the Maltodextrin Filter to the Maltodextrin Dryer at a nominal design rate of 51,690 pounds per hour.

(C) One (1) Maltodextrin Drying System, re-permitted in 2015 and approved for modification in 2020 to replace the burner, consisting of one (1) 53.5 MMBtu/hr natural gas fired Maltodextrin Dryer, drying Maltodextrin received from the Maltodextrin Filtration System Discharge Conveyor System a nominal design rate of 51,690 pounds per hour, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC39 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC40 (Maltodextrin Dryer WESP), with all emissions exhausted through Stack MP40.

(D) One (1) totally enclosed Maltodextrin Transfer Conveyor System, conveying dried Maltodextrin received from the Maltodextrin Dryer to the Maltodextrin Storage System at a nominal design rate of 28,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42 (Maltodextrin Transfer Baghouse), with all emissions exhausted through Stack MP42.

(E) One (1) Maltodextrin Storage System, consisting of four (4) Maltodextrin Storage Bins with a combined nominal design capacity of 1,000,000 pounds, storing Maltodextrin received from the Maltodextrin Transfer Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed Maltodextrin Loadout System, including one (1) Maltodextrin Screening Process and one (1) Maltodextrin Loadout Process, conveying Maltodextrin received from the Maltodextrin Storage Bins to the Maltodextrin Packaging System at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41 (Maltodextrin Packaging Dust Collector), with all emissions exhausted through Stack MP41.

(b) One (1) Anaerobic Wastewater Treatment Process, installed in March 2000, with H2S emissions controlled by a caustic wet scrubber, installed in 2008, identified as UPC55 (Biogas Scrubber).

Upon exiting scrubber UPC55, the biogas can be:

(1) Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54 (Biogas Flare), with all emissions exhausted through Stack UP54.

(2) Used as fuel in the Germ Dryer.

(3) Used as fuel in the Gluten Dryers.

(4) Used as fuel in thermal oxidizers FPC34a and FPC34b.

Supporting the Wastewater Treatment Process is a Wastewater Treatment Lime Feed System, consisting of:
(5) One (1) Lime Storage Bin, constructed in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52 (Lime Bin Vent), with emissions exhausted through stack UP52.

(c) Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities. Under 40 CFR 63, Subpart DDDDD, these are considered existing affected sources.

(d) One (1) Process Water Cooling Tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

(e) One (1) maltodextrin process line, transferred pneumatically and constructed in 2018

(1) One (1) Maltodextrin spray dryer, identified as MP80, constructed in 2018, with a maximum capacity of 60,000 pounds per hour of refined maltodextrin, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC79 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC80 (Maltodextrin Dryer WESP), using a natural gas-fired burner with heat input capacity of 57.6 MMBtu/hr, with all emissions exhausted through Stack MP80.

(2) One (1) Maltodextrin transfer PC Receiver, identified as MP82, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC82, with all emissions exhausted through Stack MP82.

(3) One (1) Maltodextrin bin tower product receiver, identified as MP85, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC85, with all emissions exhausted through Stack MP85.

(4) Four (4) Maltodextrin storage bins, identified as MP84, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by bin vent collectors, identified as MPC84 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP84.

(5) One (1) Maltodextrin loading and screening process, identified as MP81, constructed in 2018, with a maximum capacity of 90,000 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC81, with all emissions exhausted through Stack MP81.

(f) Seven (7) maltodextrin tanks, process tanks including feed tanks, reactor and wasted tanks and two (2) vacuum receivers, constructed in 2018.

(g) Five (5) natural gas-fired heaters, constructed in 2018.
(1) One (1) with a maximum capacity of 0.25 MMBtu per hour in building 307
(2) Two (2) with a maximum capacity of 1.5 MMBtu per hour in building 305
(3) One (1) with a maximum capacity of 1.25 MMBtu per hour in building 305
(4) One (1) with a maximum capacity of 0.20 MMBtu per hour in building 305

A.3 Specifically Regulated Insignificant Activities

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

(a) One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an existing affected source.

(b) One (1) diesel fired, compression ignition lighting tower emergency generator, installed in 2006, with a maximum power output rating of 8 KW. *Note: This is a nonroad engine.*

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

(d) One (1) spent carbon storage pile, identified as SP-1, installed in 2011, stored in a threesided quonset hut structure, with a maximum storage capacity of 25 tons, and with a maximum throughput of 4,050 tons per year.

(e) One (1) corn feed storage pile, identified as SP-2, installed in 2011, stored in a four-sided enclosure, with a maximum storage capacity of 1,300 tons, and with a maximum throughput of 875,000 tons per year.

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

(1) Four (4) space heaters.

(2) One (1) natural gas-fired boiler, identified as Natural Gas Boiler, installed in 1999, with a maximum heat input capacity of 2.1 MMBtu/hr.

Under 40 CFR 63, Subpart DDDDD, this is considered an existing affected source.

(3) Two (2) forced-air heaters in the Maltodextrin Wet Line enclosure, each with a maximum heat input capacity of 2.66 MMBtu/hr.

(4) Two (2) natural gas-fired heaters, permitted in 2020, with a maximum capacity of 0.20 MMBtu per hour.

(5) Four (4) natural gas, direct-fired heaters, permitted in 2020, each with a maximum heat input capacity of 3.522 MMBtu per hour, and exhausting indoors.

(g) Degreasing operations using spray can degreaser.

(h) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO2; 5 lb/hr or 25 lb/day NOx; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) One (1) parts washer with a design capacity of 23 gallons;
(2) Two (2) HCl storage tanks.

(3) Five (5) process tanks for maltodextrin facility that vent to a common header.

(4) Three (3) process tanks for maltodextrin facility.

(i) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons. This operation consists of two (2) 500 gallon ASTs for gasoline, with a maximum gasoline throughput of less than 10,000 gallons per month.

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour (196 hp), except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(k) The following VOC and HAP storage containers: Vessels storing lubricating oils, hydraulic oils, and machining fluids.

(l) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(m) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility.

(n) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(o) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(p) Heat exchanger cleaning and repair.

(q) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(r) Process vessel degassing and cleaning to prepare for internal repairs.

(s) Purge double block and bleed valves.

(t) Purging of gas lines and vessels that are related to 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.

(u) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(v) A laboratory as defined in 326 IAC 2-7-1(21)(G).

(w) Farm operations.

(x) One (1) sodium bisulfite solution storage tank, installed in 2013, with a maximum throughput rate of 823,500 gallons per year, with emissions venting to the atmosphere.
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, T027-42694-00046, 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 5
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 or Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

   Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
   Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
   Facsimile Number: 317-233-6865
   Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.

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 T027-42694-00046 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
[326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(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 [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(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 5
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(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.

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 317-233-8590 (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

Entire Source

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 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A. The provisions of 326 IAC 6-5 are not federally enforceable.

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. 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.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

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.9 Performance Testing [326 IAC 3-6]

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(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.10 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.11 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
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

The notification which shall be submitted by the Permittee does require a certification that
meets the requirements of 326 IAC 2-7-6(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.12 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.13 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.14 Risk Management Plan [326 IAC 2-7-5(11)] [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.15 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) (a) CAM Response to excursions or exceedances.
(1) 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.

(2) 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)(a)(2) 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.16 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).

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

C.17 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.18 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.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(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.

(d) 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.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]
[326 IAC 2-2][326 IAC 2-3] [40 CFR 64][326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(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.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(1) One (1) Truck and Railcar Corn Unloading Process, installed in March 2000, consisting of:

(A) One (1) Truck/Railcar Unloading Pit and one (1) Truck Unloading Pit, each equipped with one (1) totally enclosed Drag Pit Conveyor System, unloading corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01 (Grain Unloading Baghouse), with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed Truck and Railcar Corn Unloading Process Discharge Conveyor System, conveying corn received from the Truck/Railcar and/or Truck Unloading Drag Pit Conveyor systems to the Corn Storage Silo System at a nominal design rate of 855,000 pounds per hour.

(a)(2) One (1) Corn Storage System, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F, with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the Truck and Railcar Corn Unloading Process Discharge Conveyor System, with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(a)(3) One (1) Corn Cleaning Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Corn Storage System Receiving Conveyor System, conveying corn received from the Corn Storage System to the Corn Cleaning System at a nominal design rate of 560,000 pounds per hour.

(B) One (1) Corn Cleaning System, cleaning corn received from the Corn Storage System Discharge Conveyor System at a nominal design rate of 560,000 pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed Corn Cleaning Process Discharge Conveyor System, conveying corn received from the Corn Cleaning System to the Corn Steeping Tank System at a nominal design rate of 560,000 pounds per hour.

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) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (PM10 includes filterable and condensable PM) for the Truck and Railcar Corn Unloading Process, the Corn Storage System, and the Corn Cleaning Process shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:
D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their 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.1.3 Particulate Control

(a) In order to assure compliance with Condition D.1.1, the baghouse, CPC01, for particulate control shall be in operation and control emissions from the Truck and Railcar Corn Unloading Process at all times the Truck and Railcar Corn Unloading Process is in operation.

(b) In order to assure compliance with Condition D.1.1, the baghouse, FPC05, for particulate control, shall be in operation and control emissions from the Corn Storage System or the Corn Cleaning Process at all times the Corn Storage System or the Corn Cleaning Process are in operation.

(c) 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.1.4 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from Baghouses CPC01 and FPC05 when the associated processes are in operation, 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. PM10 includes filterable and condensable PM.

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 the stack exhaust from the Truck and Railcar Corn Unloading Process (Stack CP01) 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 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Corn Storage System and the Corn Cleaning Process (Stack FP05) 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.1.7 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across baghouse CPC01, used in conjunction with the Truck and Railcar Corn Unloading Process, at least once per day when the respective process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water, unless a different upper-bound or lower-bound value for this range 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 pressure 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.

The instrument 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.
D.1.8 Parametric Monitoring

The Permittee shall record the pressure drop across baghouse FPC05, used in conjunction with the Corn Storage System and the Corn Cleaning Process, at least once per day when either respective process/system is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 and 6.0 inches of water, unless a different upper-bound or lower-bound value for this range 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 pressure 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.

The instrument 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.

D.1.9 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 unit. 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.1.10 Record Keeping Requirement

(a) To document the compliance status with Conditions D.1.5 and D.1.6, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks CP01 and FP05. 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 Conditions D.1.7 and D.1.8, the Permittee shall maintain daily records of the pressure drop readings across baghouses CPC01 and FPC05. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (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.2  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(4) One (1) Corn Steeping Process, installed in March 2000 and approved in 2008 for modification, consisting of:

(A) One (1) Corn Steeping Tank System, installed in 2000, with two (2) additional steep tanks installed in 2008, softening corn received from the Corn Cleaning Process Discharge Conveyor System at a nominal design rate of 560,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed Corn Steeping Tank System Discharge Conveyor System, conveying steeped corn received from the Corn Steeping Tank System to the Steeped Corn Dewatering System at a nominal design rate of 321,000 pounds per hour.

(C) One (1) Steeped Corn Dewatering System, consisting of two (2) Dewatering Screens, separating water from the softened corn received from the Corn Steeping Tank System Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.

(D) One (1) totally enclosed Steeped Corn Discharge Conveyor System, conveying steeped corn received from the Steeped Corn Dewatering System to the Corn Germ, Fiber, Gluten, and Starch Separation Process Primary Mill Area at a nominal design rate of 168,000 pounds per hour.

(E) One (1) totally enclosed Steep Water Discharge Conveyor System, conveying steep water received from the Steeped Corn Dewatering System to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 100,000 pounds per hour and/or Corn Steep and Alcohol Stillage Evaporation System at a nominal design rate of 50,000 pounds per hour.

(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) - Best Available Control Technology for SO2 [326 IAC 2-2] Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Corn Steeping Process shall be as follows:

(a) The emissions from the Corn Steeping Process shall be controlled by Caustic Wet Scrubber FPC06.

(b) The SO2 emissions from Stack FP06 shall not exceed 4.70 lbs/hr.

(c) The adsorption efficiency for Caustic Wet Scrubber FPC06 shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.
(d) The Corn Steeping Process shall be enclosed and shall be under negative pressure (i.e. the direction of air through the enclosure shall be towards the control device).

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their 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 SO2 Control

In order to assure compliance with Condition D.2.1 the scrubber FPC06, for SO2 control, shall be in operation and control emissions from the Corn Steeping Process at all times the Corn Steeping Process is in operation.

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

In order to demonstrate compliance with Condition D.2.1, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for Caustic Wet Scrubber FPC06 when the Corn Steeping Process is in operation, 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.

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 of the scrubbing liquid, the exhaust air stream pressure drop, and the scrubbant flow rate of scrubber FPC06 at least once per day when the associated process is in operation.

(b) pH

When for any one reading, the pH of the scrubbing liquid is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH of 6.9 or greater, unless a different lower-bound value is established 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 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.

(c) Exhaust Air Stream Pressure Drop

When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is an exhaust air stream pressure drop between 1.0 and 8.8 inches of water, unless a different upper-bound or lower-bound value for this range 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. An exhaust air stream pressure drop 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) Scrubbant Flow Rate
When for any one reading, the scrubnant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a scrubnant flow rate of 36 gallons per minute or greater, unless a different minimum 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 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.

(e) The instrument 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.

D.2.6 Scrubber Failure Detection [40 CFR 64]

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, the Permittee shall maintain daily records of the pH, pressure drop, and scrubnant flow rate for scrubber FPC06. The Permittee shall include in its daily 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).

(b) 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:

(a)(5) One (1) Corn Germ, Fiber, Gluten, and Starch Separation Process, installed in March 2000 and approved in 2008 for modification, milling corn received from the Steeped Corn Discharge Conveyor System, consisting of:

(A) One (1) Primary Milling System, consisting of:

(i) One (1) Primary Mill Area, grinding softened corn and supplemental water received from the Steeped Corn Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Primary Milling System Discharge Conveyor System, conveying milled corn received from the Primary Mill Area to the Germ Separation Area at a nominal design rate of 321,000 pounds per hour.

(B) One (1) Germ Separation System, consisting of:

(i) One (1) Germ Separation Area, separating germ from the corn received from the Primary Milling System Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 36,000 pounds of germ per hour and 285,000 pounds of remnant corn, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Germ Separation System Germ Discharge Conveyor System, conveying germ received from the Germ Separation Area to the Germ Dryer at a nominal design rate of 36,000 pounds per hour.

(iii) One totally enclosed Germ Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Germ Separation Area to the Secondary Milling System at a nominal design rate of 285,000 pounds per hour.

(C) One (1) Secondary Milling System, consisting of:

(i) One (1) Secondary Milling Area, grinding softened corn remnants received from the Germ Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 285,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Secondary Milling System Discharge Conveyor System, conveying milled corn remnants received from the Secondary Milling Area to the Fiber Separation Area at a nominal design rate of 285,000 pounds per hour.

(D) One (1) Fiber Separation System, consisting of:

(i) One (1) Fiber Separation Area, separating fiber received from the Secondary Milling System Discharge Conveyor System at a nominal design rate of
285,000 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 115,000 pounds of fiber per hour and 372,500 pounds of remnant corn per hour, with particulate and SO2 emissions from the separation process controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Fiber Separation System Fiber Discharge Conveyor System, conveying fiber received from the Fiber Separation Area to the Corn Gluten Feed Dryer at a nominal design rate of 115,000 pounds per hour.

(iii) One (1) totally enclosed Fiber Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Fiber Separation Area to the Starch and Gluten Separation Area at a nominal design rate of 372,500 pounds per hour.

(E) One (1) Starch and Gluten Separation System, consisting of:

(i) One (1) Starch and Gluten Separation Area, separating starch and gluten from the softened corn remnants received from the Fiber Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 372,500 pounds per hour, yielding a maximum of 338,750 pounds of starch per hour and 33,750 pounds of gluten per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Starch and Gluten Separation System Starch Discharge Conveyor System, conveying starch and supplemental water received from the Starch and Gluten Separation Area to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 306,400 pounds per hour, Starch Production Process Starch Reactors at a nominal design rate of 60,000 pounds per hour, and/or Maltodextrin Production Process at a nominal design rate of 65,800 pounds per hour.

(iii) One (1) totally enclosed Starch and Gluten Separation System Gluten Discharge Conveyor System, consisting of two (2) totally enclosed conveyors, conveying gluten received from the Starch and Gluten Separation Area to the Gluten Dryers at a nominal design rate of 33,750 pounds per hour.

(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) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 (PM10 includes filterable and condensable PM) for the Milling Area and Feed Area processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:
<table>
<thead>
<tr>
<th>Process</th>
<th>Control Device</th>
<th>Stack</th>
<th>PM Limit (gr/dscf)</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (gr/dscf)</th>
<th>PM10 Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Milling System, Germ Separation System, Secondary Milling System (Milling Area)</td>
<td>Caustic Wet Scrubber (FPC07)</td>
<td>FP07</td>
<td>0.017</td>
<td>1.18</td>
<td>0.017</td>
<td>1.18</td>
</tr>
<tr>
<td>Fiber Separation System, Starch and Gluten Separation System (Feed Area)</td>
<td>Caustic Wet Scrubber (FPC27)</td>
<td>FP27</td>
<td>0.017</td>
<td>2.00</td>
<td>0.017</td>
<td>2.00</td>
</tr>
</tbody>
</table>

D.3.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008:

(a) The Best Available Control Technology (BACT) for SO2 for the Primary Milling System, the Germ Separation System, and the Secondary Milling System shall be as follows:

(1) The emissions from the Primary Milling System, the Germ Separation System, and the Secondary Milling System shall be controlled by Caustic Wet Scrubber FPC07.

(2) The overall control efficiency for Caustic Wet Scrubber FPC07 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(3) The SO2 emissions from Stack FP07 shall not exceed 4.70 lbs/hr.

(b) The Best Available Control Technology (BACT) for SO2 for the Fiber Separation System and the Starch and Gluten Separation System shall be as follows:

(1) The emissions from the Fiber Separation System and the Starch and Gluten Separation System shall be controlled by Caustic Wet Scrubber FPC27.

(2) The overall control efficiency for Caustic Wet Scrubber FPC27 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(3) The SO2 emissions from Stack FP27 shall not exceed 7.52 lbs/hr.

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.3.4 SO2 and Particulate Control

(a) In order to assure compliance with Conditions D.3.1 and D.3.2(a), scrubber FPC07, for SO2 and particulate control, shall be in operation and control emissions from the Primary Milling System, Germ Separation System, and Secondary Milling System at all times the Primary Milling System, Germ Separation System, and Secondary Milling System are in operation.
(b) In order to assure compliance with Conditions D.3.1 and D.3.2(b), scrubber FPC27, for SO2 and particulate control, shall be in operation and control emissions from the Fiber Separation System and Starch and Gluten Separation System at all times the Fiber Separation System and Starch and Gluten Separation System are in operation.

D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1 and D.3.2(a), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) and PM and PM10 testing for Caustic Wet Scrubber FPC07, when the Mill Area processes are in operation, 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. PM10 includes filterable and condensable PM.

(b) In order to demonstrate compliance with Conditions D.3.1 and D.3.2(b), the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) and PM and PM10 testing for Caustic Wet Scrubber FPC27, when the Feed Area processes are in operation, 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. PM10 includes filterable and condensable PM.

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

D.3.6 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from the Mill Area processes (Stack FP07) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from Feed Area processes (Stack FP27) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.

(d) 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.

(e) 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.

(f) 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.3.7 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH of the scrubbing liquid, the exhaust air stream pressure drop, and the scrubbant flow rate of scrubbers FPC07 and FPC27 at least once per day when the associated processes are in operation.

(b) pH
When for any one reading, the pH of the scrubbing liquid is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pH of 5.0 or greater, unless a different lower-bound value is established 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 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.

(c) Exhaust Air Stream Pressure Drop
When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure drop reading that is outside the above mentioned ranges is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC07</td>
<td>Milling Area: Primary Milling System, Germ Separation System, Secondary Milling System</td>
<td>1.0 - 7.0</td>
</tr>
<tr>
<td>Scrubber FPC27</td>
<td>Feed Area: Fiber Separation System, Starch and Gluten Separation System</td>
<td>1.0 - 13.0</td>
</tr>
</tbody>
</table>

(d) Scrobant Flow Rate
When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different minimum 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 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Scrubbant Flow Rate (gal/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC07</td>
<td>Milling Area: Primary Milling System, Germ Separation System, Secondary Milling System</td>
<td>≥ 120</td>
</tr>
<tr>
<td>Scrubber FPC27</td>
<td>Feed Area: Fiber Separation System, Starch and Gluten Separation System</td>
<td>≥ 190</td>
</tr>
</tbody>
</table>

(e) The instrument 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.
D.3.8 Scrubber Failure Detection [40 CFR 64]

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.3.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.6, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks FP07 and FP27. 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.3.7, the Permittee shall maintain daily records of the pH, pressure drop, and scrubbant flow rate for scrubbers FPC07 and FPC27. The Permittee shall include in its daily 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).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS
Emissions Unit Description:

(a)(6) One (1) Germ Production Process, installed in March 2000 and modified in 2008 and approved in 2020 for modification, consisting of:

(A) One (1) Germ Drying System, consisting of:

(i) One (1) 17 MMBtu/hr natural gas and/or biogas fired Germ Dryer (re-permitted in 2015), drying germ received from the Germ Separation System Germ Discharge Conveyor System at a nominal design rate of 36,000 pounds per hour, yielding a maximum of 18,000 pounds of germ per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC12 (Germ Dryer Scrubber); particulate emissions are further controlled by WESP FPC32; combustion NOx emissions are controlled by a steam injection system; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(ii) One (1) totally enclosed Germ Dryer Discharge Conveyor System, conveying germ received from the Germ Dryer to the Germ Transport System at a nominal design rate of 18,000 pounds per hour.

(B) One (1) totally enclosed Germ Transport System, conveying germ received from the Germ Dryer Discharge Conveyor System to the Germ Storage Bin at a nominal design rate of 18,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10 (Germ Transport Baghouse), with all emissions exhausted through Stack FP10.

(C) One (1) Germ Storage Bin, with a nominal design storage capacity of 160 tons, storing germ received from the Germ Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11 (Germ Storage Bin Vent), with all emissions exhausted through Stack FP11.

(a)(7) One (1) Corn Gluten Feed (CGF) Production Process, installed in March 2000, consisting of:

(A) One (1) Corn Steep and Alcohol Stillage Evaporation System, consisting of:

(i) One (1) Supplemental Corn Gluten Feed Evaporation System, evaporating off excess water from the Steep System and Alcohol Distillation Still Bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber system, identified as APC40 (MR Scrubber), installed in 2003, with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, conveying supplemental gluten feed syrup received from the Supplemental Corn Gluten Feed Evaporation System to the Corn Gluten Feed Dryer at a nominal design rate of 5,000 pounds per hour.

(B) One (1) Corn Storage Process Supplemental Corn Gluten Feed System, consisting of one (1) totally enclosed Corn Storage Process Supplemental Corn Gluten Feed Conveyor System, conveying supplemental corn gluten feed collected by the Corn Receiving Transfer Dust Collector, identified as FPC05, and the Grain Unloading
Baghouse, identified as CPC01, to the Corn Gluten Feed Dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as (Corn Cleaning Transfer Baghouse), with all emissions exhausted through stack FP20.

(C) One (1) 93 MMBtu/hr natural gas fired Corn Gluten Feed (CGF) dryer (re-permitted in 2015), drying wet corn gluten feed received from the Fiber Separation System Fiber Discharge Conveyor System, Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, and Corn Storage Process Supplemental Corn Gluten Feed Conveyor System at a combined nominal design rate of 115,000 pounds per hour, yielding a maximum of 52,000 pounds of dried corn gluten feed per hour. Approved in 2008 for modification, with the addition of a flue gas recirculation system for NOx control. Approved in 2020 for modification, for a replacement scrubber.

Process and combustion particulate and SO2 emissions are controlled by scrubber FPC16 (2-Tray Tower Condensing Scrubber); particulate emissions are further controlled by WESP FPC32; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(D) One (1) totally enclosed Corn Gluten Feed Transport System, conveying corn gluten feed received from the Corn Gluten Feed Dryer to the Corn Gluten Feed Storage Bin at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18 (Fiber Cooling Baghouse), with all emissions exhausted through Stack FP18.

(E) One (1) Corn Gluten Feed Storage System, consisting of:

(i) One (1) Corn Gluten Feed Storage Bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the Corn Gluten Feed Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22 (CGF Fiber Storage Bin Vent), with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed Corn Gluten Feed Storage System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Storage Bin to the Corn Gluten Feed Final Milling Area at a nominal design rate of 52,000 pounds per hour.

(F) One (1) Corn Gluten Feed Final Mill System, consisting of:

(i) One (1) Corn Gluten Feed Final Milling Area, milling corn gluten feed received from the Corn Gluten Feed Storage System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19 (Cage Mill Baghouse) (approved in 2011 for replacement), with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed Corn Gluten Feed Final Mill System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Final Milling Area to the Corn Gluten Feed Loadout System at a nominal design rate of 52,000 pounds per hour,
and/or the Pellet Mill at a nominal design rate of 52,000 pounds per hour.

(a)(8) One (1) Gluten Production Process, installed in March 2000, consisting of:

(A) Two (2) natural gas and/or biogas fired Gluten Dryers, one (1) 32 MMBtu/hr dryer installed in 2000 (Gluten #1 Dryer) and one (1) 23 MMBtu/hr dryer installed in 2008, approved in 2011 for modification, and re-permitted in 2015 (Gluten #2 Dryer), drying gluten received from the Starch and Gluten Separation System Gluten Discharge Conveyor System at a maximum rate of 33,750 pounds per hour, yielding a maximum of 15,000 pounds of dried gluten per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC13; particulate emissions are further controlled by WESP FPC32; combustion NOx emissions from Gluten Dryer No. 1 are controlled by a steam injection system and combustion NOx emissions from Gluten Dryer No. 2 are controlled by a low-NOx burner and flue gas recirculation; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(B) One (1) totally enclosed Gluten Transport System, conveying gluten received from the Gluten Dryers to the Gluten Storage Bin at a nominal design rate of 15,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14 (Gluten Transport Baghouse), with all emissions exhausted through Stack FP14.

(C) One (1) Gluten Storage system, consisting of:

(i) One (1) Gluten Storage Bin, with a nominal design capacity of 200 tons, storing dried gluten received from the Gluten Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15 (Gluten Storage Bin Vent), with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed Gluten Storage System Discharge Conveyor System, conveying gluten received from the Gluten Storage Bin to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Transfer Conveyor System at a nominal design rate of 180,000 pounds per hour.

(a)(9) Two (2) RTOs, identified as FPC34a and FPC34b, installed in 2008, each with a burner capacity of 30 MMBtu/hr, each with the capability of firing natural gas or biogas, controlling particulate, VOC and CO emissions from the Germ Dryer, CGF Dryer, Gluten #1 Dryer, and Gluten #2 Dryer, with all emissions exhausting through Stack FP34.

(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 (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (PSD) for PM and PM10 (PM10 includes filterable and condensable...
PM (PM), for the units of the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Transport System (Baghouse FPC10)</td>
<td>FP10</td>
<td>0.005 gr/dscf</td>
<td>0.105 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.105 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Germ Storage Bin (Bin Vent Filter FPC11)</td>
<td>FP11</td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Corn Gluten Feed Transport System (Baghouse FPC18)</td>
<td>FP18</td>
<td>0.005 gr/dscf</td>
<td>1.61 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>1.61 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Corn Gluten Feed Storage System (Bin Vent Filter FPC22)</td>
<td>FP22</td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Corn Gluten Feed Final Mill System (Baghouse FPC19)</td>
<td>FP19</td>
<td>0.005 gr/dscf</td>
<td>0.13 b/hr</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.13 b/hr</td>
<td></td>
</tr>
<tr>
<td>Gluten Transport System (Baghouse FPC14)</td>
<td>FP14</td>
<td>0.005 gr/dscf</td>
<td>0.43 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.43 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Gluten Storage System (Bin Vent Filter FPC15)</td>
<td>FP15</td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.005 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Corn Storage Process Supplemental Corn Gluten Feed System (Baghouse FPC20)</td>
<td>FP20</td>
<td>0.005 gr/dscf</td>
<td>0.09 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.005 gr/dscf</td>
<td>0.09 lb/hr</td>
<td></td>
</tr>
<tr>
<td>Germ Drying System (Wet Scrubber FPC12)</td>
<td>FP34</td>
<td>0.01 gr/dscf</td>
<td>2.51 lbs/hr</td>
<td>0%</td>
</tr>
<tr>
<td>Corn Gluten Feed Dryer (Wet Scrubber FPC16)</td>
<td></td>
<td>0.01 gr/dscf</td>
<td>2.51 lbs/hr</td>
<td></td>
</tr>
<tr>
<td>Gluten #1 and #2 Dryers (Wet Scrubber FPC13)</td>
<td></td>
<td>0.01 gr/dscf</td>
<td>2.51 lbs/hr</td>
<td></td>
</tr>
<tr>
<td>FPC12, FPC16, and FPC13 exhaust to WESP FPC32 and then to Thermal Oxidizers (in parallel) FPC34a &amp; FPC34b</td>
<td></td>
<td>0.01 gr/dscf</td>
<td>11.38 lbs/hr</td>
<td></td>
</tr>
</tbody>
</table>

D.4.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

(a) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, T027-14200-00046, issued on October 19, 2007, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, issued on December 8, 2015, and as revised by PSD/SSM No. 027-42301-00046, the Best Available Control Technology (BACT) for VOC for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

(1) The VOC emissions from the CGF Dryer, the Germ Dryer, the Gluten #1 Dryer, and the Gluten #2 Dryer shall be controlled by one (1) or both Thermal Oxidizers FPC34a and/or FPC34b.
(2) The overall VOC control efficiency for Thermal Oxidizers FPC34a and FPC34b (including capture and destruction) shall be at least 98% or the VOC outlet concentration shall not exceed 10 ppmv.

(3) When only one (1) of the two (2) thermal oxidizers is in operation, only one (1) of the (2) Gluten Dryers shall be in operation.

(4) The VOC emissions from Stack FP34 shall not exceed 21.41 lb/hr, including process and combustion VOC emissions from the CGF Dryer, the Germ Dryer, and the Gluten #1 and #2 Dryers while combusting natural gas and/or biogas.

(b) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for VOC for the Corn Steep and Alcohol Stillage Evaporation System shall be as follows:

(1) The VOC emissions from the Corn Steep and Alcohol Stillage Evaporation System shall be controlled by the Condenser/Scrubber System APC40.

(2) The overall control efficiency for the Condenser/Scrubber System APC40 (including the capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppm.

(3) The VOC emissions from Condenser/Scrubber System APC40 shall not exceed 0.11 lb/hr.

D.4.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, as revised by PSD/SSM No. 027-29775-00046, issued on November 23, 2011, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NOx for the Germ Production, Corn Gluten Feed Production, Gluten Production Processes shall be as follows:

NOx emissions shall be controlled by the following methods and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Control Device</th>
<th>NOx Limit (lb/MMBtu)</th>
<th>NOx Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer</td>
<td>Steam Injection System</td>
<td>0.04 lb/MMBtu</td>
<td>0.68</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>Low NOx Burners and Flue Gas Recirculation System</td>
<td>0.047 lb/MMBtu</td>
<td>4.37</td>
</tr>
<tr>
<td>Gluten #1 Dryer</td>
<td>Steam Injection System</td>
<td>0.06 lb/MMBtu</td>
<td>--</td>
</tr>
<tr>
<td>Gluten #2 Dryer</td>
<td>Low NOx Burners and Flue Gas Recirculation</td>
<td>0.06 lb/MMBtu</td>
<td>1.38</td>
</tr>
</tbody>
</table>

D.4.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No.
027-35177-00046, the Best Available Control Technology (BACT) for SO2 for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

<table>
<thead>
<tr>
<th>Unit(s)</th>
<th>Required Control</th>
<th>SO2 Control Efficiency</th>
<th>SO2 Emission Limit (lb/hr) for Natural Gas Combustion</th>
<th>SO2 Emission Limit (lb/hr) for Biogas Combustion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer</td>
<td>Scrubber FPC12</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>0.55</td>
<td>0.81</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>Scrubber FPC16</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>0.79</td>
<td>N/A</td>
</tr>
<tr>
<td>Gluten #1 Dryer</td>
<td>Scrubber FPC13</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>2.78</td>
<td>3.24</td>
</tr>
</tbody>
</table>

D.4.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for CO [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for CO for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

(a) The CO emissions from the CGF Dryer, the Germ Dryer, and the Gluten #2 Dryer shall be controlled by one (1) or both Thermal Oxidizers FPC34a and/or FPC34b.

(b) The overall CO Control efficiency for Thermal Oxidizers FPC34a and FPC34b (including capture and destruction) shall be at least 90% or the CO outlet concentration shall not exceed 100 ppmv.

(c) The CO emissions from Thermal Oxidizers shall not exceed 0.06 lb/MMBtu each, including combustion CO emissions from the CGF Dryer, Germ Dryer, and the Gluten #1 and #2 Dryers while combusting natural gas and/or biogas.

(d) The CO emissions from Stack FP34 shall not exceed 6.30 lb/hr when the Germ Dryer, Gluten #1 Dryer, Gluten #2 Dryer, and RTOs are combusting natural gas alone.

(e) The CO emissions from Stack FP34 shall not exceed 6.66 lb/hr when biogas is combusted in either the Germ Dryer, the Gluten #1 Dryer, and/or the Gluten #2 Dryer.

(f) The CO emissions from Stack FP34 shall not exceed 9.83 lb/hr when biogas is combusted in one (1) of the Thermal Oxidizers FPC34a or FPC34b.

D.4.6 Prevention of Significant Deterioration (PSD) Minor Limit for NOx and SO2 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable to FPC34a and FPC34b, the following conditions shall apply:

(a) Nitrogen Oxides (NOx)

(1) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of natural gas used as fuel.

(2) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of biogas used as fuel.
(3) The total NOx emissions from the combustion of biogas and/or natural gas by Thermal Oxidizers FPC34a and FPC34b shall be less than forty-three (43) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits shall limit the net emissions increase of NOx from the thermal oxidizer replacement project to less than forty (40) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable to RTOs FPC34a and FPC34b.

(b) Sulfur Dioxide (SO2)

(1) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 91.63 pound per MMCF.

(2) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(3) The total SO2 emissions from combustion of biogas and/or natural gas by Thermal Oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the SO2 emissions from the thermal oxidizers to less than forty (40) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to RTOs FPC34a and FPC34b.

D.4.7 Prevention of Significant Deterioration (PSD) Minor Limit for PM2.5 [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, the Permittee shall comply with the following:

The PM2.5 emissions from the Corn Gluten Feed Final Mill System shall be less than 0.33 pounds per hour.

Compliance with the above limit, combined with the potential to emit of PM2.5 from the flare (APC97) and storage piles SP1 and SP2, shall limit the PM2.5 emissions increase from the project to less than ten (10) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 not applicable to the Corn Gluten Feed Final Mill System and flare (APC97).

D.4.8 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.4.9 PM, PM10, SO2, VOC, and NOx Control

In order to assure compliance with the emission limitations established in this section, the control devices shall be in operation and control emissions from the respective processes at all times the respective processes are in operation, as indicated in the table below:
<table>
<thead>
<tr>
<th>Control</th>
<th>Process</th>
<th>Pollutant(s) Controlled</th>
<th>Condition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse FPC10</td>
<td>Germ Transport System</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Bin Vent Filter FPC11</td>
<td>Germ Storage Bin</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Baghouse FPC20</td>
<td>Corn Storage Process Supplemental Corn Gluten Feed System</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Baghouse FPC18</td>
<td>Corn Gluten Feed Transport System</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Bin Vent Filter FPC22</td>
<td>Corn Gluten Feed Storage System</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Baghouse FPC19</td>
<td>Corn Gluten Feed Final Mill System</td>
<td>PM, PM10, PM2.5</td>
<td>D.4.1, D.4.7</td>
</tr>
<tr>
<td>Baghouse FPC14</td>
<td>Gluten Transport System</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Bin Vent Filter FPC15</td>
<td>Gluten Storage Bin</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Scrubber FPC12</td>
<td>Germ Drying System</td>
<td>PM, PM10, SO2</td>
<td>D.4.1, D.4.4</td>
</tr>
<tr>
<td>Scrubber APC40</td>
<td>Corn Steep and Alcohol Stillage Evaporation System</td>
<td>VOC</td>
<td>D.4.2</td>
</tr>
<tr>
<td>Scrubber FPC16</td>
<td>Corn Gluten Feed Dryer</td>
<td>PM, PM10, SO2</td>
<td>D.4.1, D.4.4</td>
</tr>
<tr>
<td>Scrubber FPC13</td>
<td>Gluten #1 and #2 Dryers</td>
<td>PM, PM10, SO2</td>
<td>D.4.1, D.4.4</td>
</tr>
<tr>
<td>RTOs FPC34a and FPC34b</td>
<td>Germ Drying System, Corn Gluten Feed Dryer, Gluten #1 and #2 Dryers</td>
<td>PM, PM10, VOC, CO</td>
<td>D.4.1, D.4.2, D.4.5</td>
</tr>
<tr>
<td>WESP FPC32</td>
<td>Germ Drying System, Corn Gluten Feed Dryer, Gluten #1 and #2 Dryers</td>
<td>PM, PM10</td>
<td>D.4.1</td>
</tr>
<tr>
<td>Steam Injection Systems</td>
<td>Germ Dryer and Gluten #1 Dryer</td>
<td>NOx</td>
<td>D.4.3</td>
</tr>
<tr>
<td>Low NOx Burners with Flue Gas Recirculation</td>
<td>CGF Dryer and Gluten #2 Dryer</td>
<td>NOx</td>
<td>D.4.3</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.

**D.4.10 Sulfur Dioxide (SO2) and Nitrogen Oxides (NOx) Compliance Determination**

(a) Compliance with the limitation in Condition D.4.6(a)(3) shall be determined using the following equation:

\[
\text{NOx Emissions (ton/month)} = \frac{(Y1\times460 \text{ lb/MMCF} + Y2\times460 \text{ lb/MMCF})}{(2000 \text{ lb/ton})}
\]

Where:

\(Y1\) = the biogas (MMCF) usage at FPC34a and FPC34b per month

\(Y2\) = the gas natural gas (MMCF) usage at FPC34a and FPC34b per month
(b) Compliance with the limitation in Condition D.4.6(b)(3) shall be determined using the following equation:

\[ \text{SO}_2 \text{ Emissions (ton/month)} = \frac{(Y_1 \times 91.63 \text{ lb/MMCF} + Y_2 \times 0.6 \text{ lb/MMCF})}{2000 \text{ lb/ton}} \]

Where:

- \( Y_1 \) = the biogas (MMCF) usage at FPC34a and FPC34b per month
- \( Y_2 \) = the gas natural gas (MMCF) usage at FPC34a and FPC34b per month

### D.4.11 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.4.1 and D.4.2, not later than 180 days after the startup of the scrubber FPC16, the Permittee shall perform PM, PM10, and VOC (including capture and destruction efficiency for VOC) testing for Thermal Oxidizers FPC34a and FPC34b (stack FP34), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Each thermal oxidizer shall be tested individually while the Corn Gluten Feed Dryer, one (1) Gluten Dryer, and the Germ Dryer are operating at maximum capacity. 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 includes filterable and condensable PM.

(b) In order to demonstrate compliance with Condition D.4.5, the Permittee shall perform CO testing (including capture and destruction efficiency) for Thermal Oxidizers FPC34a and FPC34b 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.

(c) In order to demonstrate compliance with Condition D.4.4, not later than 180 days after the startup of the Scrubber FPC16, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for Scrubber FPC16, when the associated processes are in operation, 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.

(d) In order to demonstrate compliance with Condition D.4.4, the Permittee shall perform SO2 testing (including adsorption efficiency or outlet concentration, and emission rate and capture efficiency) for Scrubbers FPC12, and FPC13, when the associated processes are in operation, 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.

(e) In order to demonstrate compliance with Condition D.4.1, the Permittee shall perform PM and PM10 testing at the exhaust of Baghouses FPC10, FPC18, FPC14 and FPC20, when the associated processes are in operation, 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. PM10 includes filterable and condensable PM.

(f) In order to demonstrate compliance with Conditions D.4.1 and D.4.7, the Permittee shall perform PM, PM10, and PM2.5 testing at the exhaust of Baghouse FPC19, when the associated processes are in operation, 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. PM10 and PM2.5 include filterable and condensable PM.

(g) In order to demonstrate compliance with Condition D.4.6(a)(1) and (2), the Permittee shall perform NOx testing at the outlet of Thermal Oxidizers FPC34a and FPC34b utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Separate testing shall be conducted for natural gas combustion and biogas combustion. 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.

(h) In order to demonstrate compliance with Condition D.4.3, the Permittee shall perform NOx testing for the Germ Dryer, the Gluten #1 Dryer, the Gluten #2 Dryer and the CGF dryer 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.

(i) In order to demonstrate compliance with Condition D.4.2(b), the Permittee shall perform VOC testing (including emissions and capture and absorption efficiency or outlet concentration) for Scrubber APC40, when the associated process is in operation, 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.

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

D.4.12 Thermal Oxidizer Temperature Monitoring [40 CFR 64]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on Thermal Oxidizers FPC34a and FPC34b for measuring operating temperature. For the purposes 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.

(b) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the limits in Conditions D.4.1 and D.4.2(a).

(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.4.13 Condenser/Scrubber Monitoring

(a) For the condenser of APC40:

(1) A continuous monitoring system shall be calibrated, maintained, and operated on the condenser of APC40 for measuring outlet exhaust temperature. For the purposes of this condition, continuous monitoring shall mean no less often than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average.

(2) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the limits in Condition D.4.2(b).

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

(4) If the 3-hour average temperature is greater than 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 that is greater than 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.

(b) For the scrubber of APC40:

(1) The Permittee shall monitor and record the supply water pressure for the scrubber part of APC40 at least once per day when the associated process is in operation.

(2) When for any one reading, the supply water pressure is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a supply water pressure between 15.0 and 20.0 inches of water, unless a different upper-bound or lower-bound value for this range 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 supply water pressure 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.

(3) The instrument used for determining the supply water pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.
D.4.14 Parametric Monitoring - Thermal Oxidizer Duct Pressure or Fan Amperage [40 CFR 64]

(a) The Permittee shall determine the appropriate duct pressure or fan amperage from the most latest valid stack test that demonstrates compliance with limits in Conditions D.4.1 and D.4.2(a).

(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 the latest compliant stack test.

(c) When for any one reading, the duct pressure or fan pressure is outside the above mentioned range, 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 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.

D.4.15 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH of the scrubbing liquid, the exhaust air stream pressure drop, and the scrubbant flow rate of Scrubbers FPC12, FPC13, and FPC16 at least once per day when the associated processes are in operation.

(b) pH
When for any one reading, the pH of the scrubbing liquid is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pH of 5.0 or greater, unless a different lower-bound value is established 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 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.

(c) Exhaust Air Stream Pressure Drop
When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure drop reading that is outside the above mentioned ranges is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC12</td>
<td>Germ Dryer</td>
<td>4.0 - 17.0</td>
</tr>
<tr>
<td>Scrubber FPC13</td>
<td>Gluten #1 and #2 Dryers</td>
<td>7.0 - 20.0</td>
</tr>
<tr>
<td>Scrubber FPC16</td>
<td>CGF Dryer</td>
<td>3.0 - 9.0</td>
</tr>
</tbody>
</table>

(d) Scrubbant Flow Rate
When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are
indicated in the table below, unless a different minimum 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 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Scrubbaunt Flow Rate (gal/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC12</td>
<td>Germ Dryer</td>
<td>≥ 60</td>
</tr>
<tr>
<td>Scrubber FPC13</td>
<td>Gluten #1 and #2 Dryers</td>
<td>≥ 200</td>
</tr>
<tr>
<td>Scrubber FPC16</td>
<td>CGF Dryer</td>
<td>≥ 1373</td>
</tr>
</tbody>
</table>

(e) 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.

D.4.16 Scrubber or Condenser Failure Detection

In the event that a scrubber or condenser malfunction has been observed:

(a) For a scrubber or condenser 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 or condenser 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.4.17 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across baghouses FPC14, FPC18, and FPC19 at least once per day when the respective processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse FPC14</td>
<td>Gluten Transport System</td>
<td>0.2 - 6.0</td>
</tr>
<tr>
<td>Baghouse FPC18</td>
<td>Corn Gluten Feed Transport System</td>
<td>1.0 - 6.0</td>
</tr>
<tr>
<td>Baghouse FPC19</td>
<td>Corn Gluten Feed Final Mill System</td>
<td>0.1 - 6.0</td>
</tr>
</tbody>
</table>

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.
D.4.18 Parametric Monitoring

The Permittee shall record the pressure drop across baghouses FPC10 and FPC20 at least once per day when the respective processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse FPC10</td>
<td>Germ Transport System</td>
<td>0.1 - 6.0</td>
</tr>
<tr>
<td>Baghouse FPC20</td>
<td>Corn Storage Process Supplemental Corn Gluten Feed System</td>
<td>0.5 - 6.0</td>
</tr>
</tbody>
</table>

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.

D.4.19 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from the Gluten Transport System (Stack FP14), the Corn Gluten Feed Transport System (Stack FP18), the Corn Gluten Feed Final Mill System (Stack FP19), and the thermal oxidizers (Stack FP34) 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.4.20 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Germ Transport System (Stack FP10), the Germ Storage Bin (Stack FP11), the Gluten Storage System (Stack FP15), the Corn Storage Process Supplemental Corn Gluten Feed System (Stack FP20), and the Corn Gluten Feed Storage System (Stack FP22) 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.4.21 Broken or Failed Bag or Bin Vent Filter Detection

(a) For a single compartment baghouse or filter 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 or filter 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 or filter failure can be indicated by a significant drop in the baghouse's or filter'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.4.22 Wet Electrostatic Precipitator Monitoring [40 CFR 64]

The Permittee shall record the secondary voltage across the Wet Electrostatic Precipitator FPC32 at least once per day when any of the following units are in operation: CGF Dryer and Scrubber FPC16, Gluten Dryers #1 and #2 and Scrubber FPC13, and Germ Dryer and Scrubber FPC12. When for any one reading, the secondary voltage is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a secondary voltage reading of 45 kV or greater, unless a different minimum 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 secondary voltage 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.

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

D.4.23 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.6, the Permittee shall maintain records of the monthly amount of biogas and natural gas combusted by FPC34a and FPC34b.

(b) To document the compliance status with Condition D.4.12, the Permittee shall maintain continuous temperature records for each thermal oxidizer (FPC34a and FPC34b) and the
3-hour average temperatures used to demonstrate compliance during the most recent compliant stack test.

(c) To document the compliance status with Condition D.4.13(a) the Permittee shall maintain continuous temperature records for the condenser part of APC40 and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(d) To document the compliance status with Condition D.4.13(b) the Permittee shall maintain daily records of the supply water pressure readings for the scrubber part of APC40. The Permittee shall include in its daily 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).

(e) To document the compliance status with Condition D.4.14, the Permittee shall maintain daily records of the duct pressure or fan amperage for each of the thermal oxidizers (FPC34a and FPC34b). The Permittee shall include in its daily 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).

(f) To document the compliance status with Condition D.4.15, the Permittee shall maintain daily records of the pH of the scrubbing liquid, exhaust air stream pressure drop, and scrubant flow rate for Scrubbers FPC12, FPC13, and FPC16. The Permittee shall include in its daily 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).

(g) To document the compliance status with Conditions D.4.17 and D.4.18, the Permittee shall maintain daily records of the pressure drop readings for Baghouses FPC10, FPC14, FPC18, FPC19, and FPC20. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(h) To document the compliance status with Conditions D.4.19 and D.4.20, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks FP10, FP11, FP14, FP15, FP18, FP19, FP20, FP22, and FP34. 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).

(i) To document the compliance status with Condition D.4.22, the Permittee shall maintain daily records of the secondary voltage across Wet Electrostatic Precipitator FPC32. The Permittee shall include in its daily 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).

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

D.4.24 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.4.6(a)(3) and D.4.6(b)(3) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting 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.5  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(10) One (1) Corn Gluten Feed Pellet Production Process, installed in March 2000, consisting of:

(A) One (1) Pellet Milling System, consisting of:

(i) One (1) Pellet Mill, producing corn gluten feed pellets from corn gluten feed received from the Corn Gluten Feed Final Mill System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour.

(ii) One (1) totally enclosed Pellet Milling System Discharge Conveyor System, conveying corn gluten feed pellets received from the Pellet Mill to the Pellet Cooler at a nominal design rate of 52,000 pounds per hour.

(B) One (1) Pellet Cooling System, consisting of:

(i) One (1) Pellet Cooler, cooling corn gluten pellets received from the Pellet Milling System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, discharging to cyclone FPC24 (Pellet Cooler Cyclone), with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed Pellet Cooling System Discharge Conveyor System, conveying pellets received from the Pellet Cooler to the Pellet Storage Bin at a nominal design rate of 52,000 pounds per hour.

(C) One (1) Pellet Storage Bin with a nominal design storage capacity of 240 tons, storing pellets received from the Pellet Cooling System Discharge Conveyor System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC25 (Pellet Storage Bin Vent), with all emissions exhausted through Stack FP25.

(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) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (includes filterable and condensable PM) from the Corn Gluten Feed Pellet Production Process shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control Device)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pellet Milling System and Pellet Cooling System (Cyclone FPC24)</td>
<td>FP18</td>
<td>0.06 gr/dscf 18.00 lb/hr</td>
<td>0.03 gr/dscf 9.00 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Pellet Storage Bin (Bin Vent Filter FPC25)</td>
<td>FP25</td>
<td>0.005 gr/dscf 0.004 lb/hr</td>
<td>0.005 gr/dscf 0.004 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>
D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.5.3 Particulate Control

(a) In order to assure compliance with Condition D.5.1, the Cyclone FPC24 for particulate control, shall be in operation and control emissions from the Pellet Milling System and Pellet Cooling System at all times the Pellet Milling System and Pellet Cooling System is in operation.

(b) In order to assure compliance with Condition D.5.1, the Bin Vent Filter FPC25 for particulate control, shall be in operation and control emissions from the Pellet Storage Bin at all times the Pellet Storage Bin is in operation.

In the event that filter failure is observed in a multi-compartment filter, 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.5.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from Cyclone FPC24, when the Pellet Milling System and Pellet Cooling System are in operation, 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. PM10 includes filterable and condensable PM.

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

D.5.5 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from the Pellet Milling System and Pellet Cooling System (Stack FP18) 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.5.6 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Pellet Storage Bin (Stack FP25) 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.5.7 Cyclone Failure Detection [40 CFR 64]

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.5.8 Broken or Failed Filter Detection

(a) For a single compartment filter 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 filter 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).

Filter failure can be indicated by a significant drop in the filter’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.5.9 Record Keeping Requirements**

(a) To document the compliance status with Conditions D.5.5 and D.5.6, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks FP18 and FP25. 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.6  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(11) One (1) Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System, conveying product received from the Storage Bins to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28 (Germ/Gluten Transfer Baghouse), with all emissions exhausted through Stack FP28.

(B) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System, loading germ, gluten, corn gluten feed and corn gluten feed pellet received from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC26 (Truck Loadout Baghouse), with all emissions exhausted through Stack FP26.

(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.6.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (PM10 includes filterable and condensable PM) from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System, shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System (Baghouse FPC28)</td>
<td>FP26</td>
<td>0.005 gr/dscf 1.50 lb/hr</td>
<td>0.005 gr/dscf 1.50 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

D.6.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

(a) The PM emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System shall be vented through Baghouse FPC28 and shall not exceed 5.70 lbs/hr.

(b) The PM10 emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System shall be vented through Baghouse FPC28 and shall not exceed 3.41 lbs/hr.
Compliance with these limits, limits the PM and PM10 emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System to less than twenty-five (25) tons of PM and fifteen (15) tons of PM10 per twelve (12) consecutive month period and renders the requirements of 326 IAC 2-2 (PSD) not applicable.

D.6.3 PM Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System (exhausting to Stack FP28) shall be limited to 50.2 lb/hr when operating at a process weight rate of up to 180,000 lb/hr.

Interpolation and extrapolation of the data for the process weight rate 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

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.6.5 Particulate Control

(a) In order to assure compliance with Condition D.6.1, the Baghouse FPC26, for particulate control, shall be in operation and control emissions from the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System at all times the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System is in operation.

(b) In order to assure compliance with Condition D.6.2, the Baghouse FPC28, for particulate control, shall be in operation and control emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Loadout Transfer Conveyor System at all times the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Loadout Transfer Conveyor System is 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.

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM and PM10 testing on the exhaust from Baghouse FPC26, when the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System is in operation, 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. PM10 includes filterable and condensable PM.
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 the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System (Stack FP26) 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 the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout Transfer Conveyor System (Stack FP28) 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 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across baghouse FPC26, used in conjunction with the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System at least once per day when the respective system is in operation. When for any one reading, the pressure drop across baghouse FPC26 is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range 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 pressure
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.

The instrument 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.

D.6.10 Parametric Monitoring

The Permittee shall record the pressure drop across Baghouse FPC28, used in conjunction with the Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout Transfer Conveyor System, at least once per day when the system is in operation. When for any one reading, the pressure drop across baghouse FPC28 is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is indicated in the table below, unless a different upper-bound or lower-bound value for this range 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 pressure 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse FPC28</td>
<td>Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout Transfer Conveyor System</td>
<td>1.0 - 6.0</td>
</tr>
</tbody>
</table>

The instrument 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.

D.6.11 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.6.12 Record Keeping Requirements

(a) To document the compliance status with Conditions D.6.7 and D.6.8, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks FP26 and FP28. 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 Conditions D.6.9 and D.6.10, the Permittee shall maintain daily records of the pressure drop readings for Baghouses FPC26 and FPC28. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (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.7 EMISSIONS UNIT OPERATION CONDITIONS
Emissions Unit Description:

(a)(12) One (1) Alcohol Production Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Starch Cooker and Precooker Tank, the Starch Cooker heats liquefied starch received from the Precooker Tank at a nominal design rate of 306,400 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 306,400 pounds per hour.

(B) One (1) Flash Cooling System, cooling fermentable sugars received from the Starch Cooker, steep water from the Steep System, and stillage from the Distillation Still Bases at a combined nominal design rate of 507,600 pounds per hour, yielding a maximum of 507,600 pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) Secondary Liquefaction Tank, with all emissions routed through one (1) scrubber, identified as APC31 (Intercondenser Scrubber) for SO2 control, exhausted through Stack AP31.

(C) One (1) Alcohol Fermentation System, consisting of:

   (i) Two (2) Pre-Fermenters, fermenting sugars received from the Flash Cooling System at a nominal design rate of 558,360 pounds per hour, yielding a maximum of 558,360 pounds of fermenter feed per hour, identified as APC28 (Pre-Fermenter Scrubber), that is used for product recovery, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

   (ii) One (1) Fermentation System, fermenting sugars received from the Flash Cooling System and Pre-Fermenters, yielding a maximum of 500,000 pounds of distillation feed per hour, with VOC and SO2 emissions controlled by one (1) wet scrubber, identified as APC29 (Fermentation Scrubber), and one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

   The RTO APC30, approved in 2014 for installation, is fueled by natural gas, with a burner heat input capacity of 8 MMBtu/hr.

(D) One (1) Vacuum Degasification Column, approved in 2015 for construction, receiving 500,000 pounds of distillation feed per hour from the Fermentation System to process prior to the Distillation System, with SO2 emissions controlled by one (1) wet scrubber, identified as APC34 (Vacuum Degasification Scrubber), and with VOC and Acetaldehyde emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(E) One (1) Alcohol Distillation System, approved in 2015 for modification, consisting of:

   (i) One (1) Distillation System, processing distillation feed received from the Alcohol Fermentation System or the Vacuum Degasification Column at a nominal design rate of 500,000 pounds per hour, yielding a maximum of 63,000 pounds of crude alcohol per hour and 437,000 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

   (ii) One (1) totally enclosed Supplemental Corn Gluten Feed (stillage) Discharge Conveyor System, conveying supplemental corn gluten feed received from the
Alcohol Distillation System to the Supplemental Corn Gluten Feed System Evaporation System at a nominal design rate of 437,000 pounds per hour.

(F) One (1) Alcohol Storage System, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the Alcohol Distillation System, consisting of:

(i) Beverage Alcohol Storage, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30, including the following tanks:

(a) Three (3) 190 proof day lot tanks (#1-3), identified as TK-106-001, TK-106-002, and TK-106-003.

(b) One (1) 190 proof reject tank, identified as TK-106-004.

(c) Four (4) 190 proof warehouse tanks (#1-3), identified as TK-106-005, TK-106-006, TK-106-007 and TK-106-008.

(d) Two (2) 190 proof industrial warehouse tanks (#1-2), identified as TK-106-031 and TK-106-032.

(e) One (1) 200 proof reject tank, identified as TK-106-013.

(f) One (1) purification feed tank, identified as TK-106-016.

(g) Three (3) alcohol storage tanks, approved in 2018 for construction

(1) Two (2) 41,800 gallon day lot tanks
(2) One (1) 100,000 gallon warehouse tank

(ii) Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:

(a) Three (3) 200 proof day lot tanks (#1-3), identified as TK-106-010, TK-106-011, and TK-106-012, each with a capacity of 41,800 gallons.

(b) Two (2) 200 proof warehouse tanks (#1-2), identified as TK-106-014 and TK-106-015, each with a capacity of 450,000 gallons.

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

(iii) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

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

(G) Two (2) 51,700 gallon above ground vertical distillation heads storage tanks, identified as Tank AP83 (Heads Tank #2) (permitted in 2011) and Tank AP84 (Heads Tank), storing distillation products received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stacks AP83 and AP84, respectively.
(H) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94 (Burn Tank), storing miscellaneous non-beverage grade alcohol received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(I) One (1) Denaturant Storage Tank System, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85 (Denaturant Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86 (Denaturant Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87 (Denaturant Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88 (Denaturant Tank #4), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88.

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89 (Denaturant Mix Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89.

(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90 (Denaturant Mix Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90.

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91 (Denaturant Mix Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91.

(viii) One (1) 13,500 gallon above ground vertical storage tank, identified as Tank AP82 (Denaturant Tank #5), installed in 2011, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP82.

(J) One (1) Alcohol and Distillation Products Loadout Area, consisting of:

(i) One (1) Alcohol Loadout System, loading beverage/industrial or anhydrous alcohol received from the Alcohol Storage System into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions
controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(ii) One (1) Distillation Products Loadout System, loading distillation products received from Tanks AP83, AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(iii) One (1) Denaturant Delivery System, delivering denaturant received from the Denaturant Storage Tank System to the Alcohol Loadout System when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), with all non-fugitive emissions exhausted through Stack AP97.

The enclosed flare APC97, installed in 2011, is fueled by natural gas, with a pilot gas flare heat input capacity of 12 MMBtu/hr.

(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 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

(a) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, as revised by PSD/SSM No. 027-29775-00046, issued on November 23, 2011, as revised by PSD/SSM No. 027-32953-00046, issued on March 20, 2014, and as revised by PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for VOC for the Pre-Fermenters, the Fermentation System, the Alcohol Distillation System, the Alcohol and Distillation Products Loadout Area, and the Storage Tanks shall be as follows:

VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Control Device</th>
<th>Stack</th>
<th>VOC Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two (2) Pre-Fermenters</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td></td>
</tr>
<tr>
<td>Fermentation System</td>
<td>Scrubber (APC29) and RTO (APC30)</td>
<td>AP30</td>
<td>98% control efficiency or VOC ≤ 10 ppm, and the VOC emissions, including process and combustion emissions shall not exceed 9.13 lb VOC/hr</td>
</tr>
<tr>
<td>Alcohol Distillation System</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td></td>
</tr>
<tr>
<td>Beverage Alcohol Storage System</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td></td>
</tr>
<tr>
<td>Fuel Alcohol Storage System</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59</td>
</tr>
</tbody>
</table>

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)
<table>
<thead>
<tr>
<th>Facility</th>
<th>Control Device</th>
<th>Stack</th>
<th>VOC Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demeth Feed Tank</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td>lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Alcohol and Distillation Products Loadout Area</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td></td>
</tr>
<tr>
<td>Storage Tank AP83</td>
<td>Internal Floating Roof</td>
<td>AP83</td>
<td>0.03 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP84</td>
<td>Internal Floating Roof</td>
<td>AP84</td>
<td>0.03 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP94</td>
<td>Internal Floating Roof</td>
<td>AP94</td>
<td>0.02 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP85</td>
<td>Internal Floating Roof</td>
<td>AP85</td>
<td>0.20 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP86</td>
<td>Internal Floating Roof</td>
<td>AP86</td>
<td>0.20 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP87</td>
<td>Internal Floating Roof</td>
<td>AP87</td>
<td>0.26 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP88</td>
<td>Internal Floating Roof</td>
<td>AP88</td>
<td>0.13 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP89</td>
<td>Internal Floating Roof</td>
<td>AP89</td>
<td>0.15 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP90</td>
<td>Internal Floating Roof</td>
<td>AP90</td>
<td>0.15 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP91</td>
<td>Internal Floating Roof</td>
<td>AP91</td>
<td>0.21 lb/hr</td>
</tr>
<tr>
<td>Alcohol Production Process Fugitive Emissions</td>
<td>None</td>
<td>None</td>
<td>10.40 lb/hr</td>
</tr>
</tbody>
</table>

(b) Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, to assure that the fugitive VOC emissions from the Alcohol Production Process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the Alcohol Production Process.

D.7.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Flash Cooling System, controlling emissions from the fermentable sugar cooling, steep water, and stillage, shall be as follows:
(1) The SO2 emissions from the fermentable sugar cooling, steep water, and stillage shall be controlled by Scrubber APC31.

(2) The overall control efficiency for Scrubber APC31 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(3) The SO2 emissions from Scrubber APC31 shall not exceed 0.53 lb/hr.

(b) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for SO2 for the Alcohol Fermentation System shall be as follows:

(1) The SO2 emissions from the Alcohol Fermentation System shall be controlled by wet scrubber APC29 at all times the Alcohol Fermentation System exhaust gases are not being routed to APC30.

(2) The total SO2 emissions from the Alcohol Fermentation System shall not exceed 0.0024 pound per hour.

(c) Pursuant to PSD/SSM No. 027-37645-00046 and 326 IAC 2-2-3, the Best Available Control Technology (BACT) for SO2 for the Distillation System shall be as follows:

(1) The total SO2 emissions from the Distillation System shall not exceed 0.012 pound per hour.

D.7.3 Best Available Control Technology for VOC and PSD Minor Limit [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 and PSD/SSM No. 027-35177-00046, and as revised in PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for VOC for the Vacuum Degasification Column shall be as follows:

(a) The VOC emissions from the Vacuum Degasification Column shall be controlled by RTO APC30.

(b) The overall VOC control efficiency for RTO APC30 (including capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

(c) The VOC emissions from RTO APC30 shall not exceed 9.13 lb/hr.

Compliance with the above limit shall also render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the Vacuum Degasification Column.

D.7.4 Prevention of Significant Deterioration (PSD) Minor Limit for SO2 [326 IAC 2-2]

SO2 emissions from the Vacuum Degasification Column shall not exceed 9.0 lb/hr. Compliance with this limit shall limit SO2 emissions from the modification to less than forty (40) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the Vacuum Degasification Column.

D.7.5 Hazardous Air Pollutants Minor Limit [326 IAC 2-4.1]

Acetaldehyde emissions from the Vacuum Degasification Column shall not exceed 2.2 lb/hr. Compliance with this limit shall limit single HAP emissions from the Vacuum Degasification Column to less than ten (10) tons per twelve (12) consecutive month period and shall render 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) not applicable to the Vacuum Degasification Column.
D.7.6 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for VOC shall be as follows:

(a) The VOC emissions emissions from the Daylot and Warehouse tanks shall be controlled by a voluntary Thermal Oxidizer (APC30)

(b) The uncontrolled VOC emissions from the Daylot tanks shall each not exceed 0.0024 pounds per hour, each.

(c) The uncontrolled VOC emissions from the Warehouse tank shall each not exceed 0.0049 pounds per hour.

D.7.7 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.7.8 VOC and SO2 Control

In order to assure compliance with the emission limitations established in this section, the control devices shall be in operation at all times the respective processes are in operation, as indicated in the table below:

<table>
<thead>
<tr>
<th>Control</th>
<th>Process</th>
<th>Pollutant(s) Controlled</th>
<th>Condition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC31</td>
<td>Flash Cooling System</td>
<td>SO2</td>
<td>D.7.2</td>
</tr>
<tr>
<td>Scrubber APC29</td>
<td>Fermentation System</td>
<td>VOC, SO2</td>
<td>D.7.1, D.7.2</td>
</tr>
<tr>
<td>RTO APC30</td>
<td>Pre-Fermenters and Fermentation System</td>
<td>VOC</td>
<td>D.7.1</td>
</tr>
<tr>
<td>RTO APC30 Scrubber APC34</td>
<td>Vacuum Degasification Column</td>
<td>VOC &amp; Acetaldehyde (APC30), SO2 (APC34)</td>
<td>D.7.3, D.7.4, D.7.5</td>
</tr>
<tr>
<td>RTO APC30</td>
<td>Alcohol Distillation System</td>
<td>VOC</td>
<td>D.7.1</td>
</tr>
<tr>
<td>RTO APC30</td>
<td>Beverage Alcohol Storage System</td>
<td>VOC</td>
<td>D.7.1</td>
</tr>
<tr>
<td>Flare APC97</td>
<td>Fuel Alcohol Storage System, Demeth Feed Tank, Alcohol and Distillation Products Loadout Area</td>
<td>VOC</td>
<td>D.7.1</td>
</tr>
<tr>
<td>RTO APC30</td>
<td>Alcohol Storage Tanks</td>
<td>VOC</td>
<td>D.7.6</td>
</tr>
</tbody>
</table>

D.7.9 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.7.2, the Permittee shall perform SO2 testing (including absorption efficiency or outlet concentration, and emission rate and capture efficiency) for Scrubber APC31, when the Flash Cooling System is in operation, 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.
In order to demonstrate compliance with Conditions D.7.1, D.7.3, and D.7.5, the Permittee shall perform VOC and Acetaldehyde testing at the inlet and outlet of RTO APC30, when the Pre-Fermenters, Fermentation System, Alcohol Distillation System, Beverage Alcohol Storage System, and Vacuum Degasification System are in operation, 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.

In order to demonstrate compliance with Condition D.7.1, the Permittee shall perform VOC testing at the inlet and outlet of Flare APC97, when the Fuel Alcohol Storage System tanks, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area are in operation, 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.

In order to demonstrate compliance with Condition D.7.4, the Permittee shall perform SO2 testing of Scrubber APC34, when the Vacuum Degasification Column is in operation, 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.

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

D.7.10 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the exhaust air stream pressure drop, and the scrubbant flow rate of Scrubber APC29 at least once per day when the associated process is in operation.

(b) Exhaust Air Stream Pressure Drop
When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is indicated in the table below, unless a different upper-bound or lower-bound value for this range 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 pressure drop 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC29</td>
<td>Fermentation System</td>
<td>1.0 - 25.0</td>
</tr>
</tbody>
</table>

(c) Scrubbant Flow Rate
When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is indicated in the table below, unless a different minimum 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
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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Scrubbant Flow Rate (gal/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC29</td>
<td>Fermentation System</td>
<td>≥ 25.0</td>
</tr>
</tbody>
</table>

(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.

**D.7.11 Scrubber Monitoring**

(a) The Permittee shall monitor and record the pH of the scrubbing liquid, the exhaust air stream pressure drop, and the scrubbant flow rate of Scrubbers APC31 and APC34 at least once per day when the associated processes are in operation.

(b) pH
- When for any one reading, the pH of the scrubbing liquid is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for Scrubbers APC31 and APC34 are indicated in the table below, unless a different lower-bound value is established 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 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC31</td>
<td>Flash Cooling System</td>
<td>≥ 5.0</td>
</tr>
<tr>
<td>Scrubber APC34</td>
<td>Vacuum Degasification Column</td>
<td>≥ 6.0</td>
</tr>
</tbody>
</table>

(c) Exhaust Air Stream Pressure Drop
- When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for Scrubbers APC31 and APC34 are indicated in the table below, unless a different upper-bound or lower-bound value for this range 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 pressure drop 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC31</td>
<td>Flash Cooling System</td>
<td>≤ 3.0</td>
</tr>
<tr>
<td>Scrubber APC34</td>
<td>Vacuum Degasification Column</td>
<td>1.0 - 6.0</td>
</tr>
</tbody>
</table>

(d) Scrubbant Flow Rate
- When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for Scrubbers APC31 and APC34 are indicated in the table below, unless a different minimum 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 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.
<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Scrubitant Flow Rate (gal/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber APC31</td>
<td>Flash Cooling System</td>
<td>≥ 4.7</td>
</tr>
<tr>
<td>Scrubber APC34</td>
<td>Vacuum Degasification Column</td>
<td>≥ 5.0</td>
</tr>
</tbody>
</table>

(e) 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.

D.7.12 Flare Pilot Flame [40 CFR 64]

The Permittee shall maintain a flare pilot flame and continuously monitor the presence of a flare pilot flame (for Flare APC97) using a thermocouple or any other equivalent device to detect the presence of a flame when the Alcohol and Distillation Products Loadout Area, the Fuel Alcohol Storage Tanks, or the Demeth Feed Tank are in operation. If a condition exists which should result in a response step, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.13 Internal Floating Roof Inspections

The Permittee shall perform annual inspections of Tanks AP83 through AP91 and AP94. The inspections shall include observing the internal floating roof, the primary seal, and the secondary seal (if one is in service). The inspections shall be repeated at least once every twelve (12) months after completion of the most recent inspection. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, 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.7.14 RTO Temperature [40 CFR 64]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on RTO APC30 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.

(b) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Condition D.7.1.

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

(d) If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the 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.7.15 Parametric Monitoring - RTO Duct Pressure or Fan Amperage [40 CFR 64]

(a) The Permittee shall determine the appropriate duct pressure or fan amperage for RTO APC30 from the latest valid stack test that demonstrates compliance with limits in Condition D.7.1.

(b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the stack test results are available, the duct pressure or fan amperage shall be maintained within the normal amperage range (120-270), unless a different upper-bound value for the range is determined during the latest 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 or 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.7.16 Record Keeping Requirements

(a) To document the compliance status with Condition D.7.10, the Permittee shall maintain daily records of the exhaust air stream pressure drop and scrubnant flow rate for Scrubber APC29. The Permittee shall include in its daily 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).

(b) To document the compliance status with Condition D.7.11 the Permittee shall maintain daily records of the pH for Scrubbers APC31 and APC34, the exhaust air stream pressure drop for Scrubbers APC31 and APC34, and the scrubnant flow rate for Scrubbers APC31, and APC34. The Permittee shall include in its daily 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).

(c) In order to document the compliance status with Condition D.7.12, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when loading operations are being conducted at the alcohol and distillation heads loadout area or when the fuel alcohol storage system tanks or the demeth feed tank is being routed to flare APC97.

(d) In order to document the compliance status with Condition D.7.13, the Permittee shall maintain records of the results of the inspections required under Condition D.7.13.

(e) To document the compliance status with Condition D.7.14, the Permittee shall maintain continuous temperature records for the RTO APC30, as a 3-hour average, and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(f) To document the compliance status with Condition D.7.15, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTO APC30. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of readings (e.g., the process did not operate that day).
(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.8  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(13) One (1) Starch Production Process, installed in March 2000, consisting of:

(A) One (1) Starch Reactor System, consisting of:

(i) Eight (8) Starch Reactors, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through eight stacks collectively identified as SP46.

(ii) One (1) Starch Reactor Dry Soda Ash Feed System, consisting of:

(a) One (1) Soda Ash Storage Bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the Starch Reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64 (Soda Ash Bin Vent), with all emissions exhausted through Stack SP64.

(b) One (1) totally enclosed Soda Ash Discharge Conveyor System, delivering soda ash received from the Soda Ash Storage Bin to the Starch Reactors.

(c) One (1) totally enclosed Starch Reactor System Starch Discharge Conveyor System, conveying processed starch received from the Starch Reactors to the Starch Filtration System at a nominal design rate of 60,000 pounds per hour.

(B) One (1) Starch Filtration System, consisting of:

(i) Two (2) Starch Filters, refining processed starch received from the Starch Reactor System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour.

(ii) One (1) totally enclosed Starch Filtration System Discharge Conveyor System, conveying refined starch received from the Starch Filters to the Starch Dryer at a nominal design rate of 56,000 pounds per hour.

(C) One (1) Starch Drying System consisting of:

(i) One (1) 31 MMBtu/hr natural gas Starch Dryer, drying refined starch received from the Starch Filtration System Discharge Conveyor System at a nominal design rate of 56,000 pounds per hour, with the process and combustion particulate emissions controlled by one (1) wet scrubber, identified as SPC49 (Starch Dryer Scrubber), with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed Starch Drying System Discharge Conveyor System, conveying dried starch received from the Starch Dryer to the Starch Storage System at a nominal design rate of 30,000 pounds per hour.

(D) One (1) Starch Storage System, consisting of four (4) Starch Storage Bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the
Starch Drying System Discharge Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as SPC50 (Starch Product Blending Bin Vents), with all emissions exhausted through four stacks collectively identified as SP50.

(E) One (1) totally enclosed Starch Loadout System, conveying starch received from the Starch Storage System into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a (Starch Loadout Receiver Baghouse), and fugitive particulate emissions controlled by one (1) dust collector identified as SPC44b (Starch Loadout Dust Collector), with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(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 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 (PM10 includes filterable and condensable PM) shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Reactor Dry Soda Ash Feed System (Bin Vent Filter SPC64)</td>
<td>SP64</td>
<td>0.02 gr/dscf 0.34 lb/hr</td>
<td>0.01 gr/dscf 0.17 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Starch Dryer (Scrubber SPC49)</td>
<td>SP49</td>
<td>0.092 gr/dscf 4.96 lb/hr</td>
<td>0.092 gr/dscf 4.96 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Starch Storage System (Bin Vent Filter SPC50)</td>
<td>SP50</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Starch Loadout System non-fugitive control (Baghouse SPC44a)</td>
<td>SP44a</td>
<td>0.005 gr/dscf 0.15 lb/hr</td>
<td>0.005 gr/dscf 0.15 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Starch Loadout System fugitive control (Dust Collector SPC44b)</td>
<td>SP44b</td>
<td>0.005 gr/dscf 0.29 lb/hr</td>
<td>0.005 gr/dscf 0.29 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

#### D.8.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for NOx for the Starch Dryer shall be no control and the NOx emissions from the Starch Dryer shall not exceed 0.075 lb/MMBtu.

#### D.8.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-32742-00046, issued on September 13, 2013, the Best Available Control...
Technology (BACT) for VOC for the Starch Reactor System (SP46) and the Starch Dryer (SP49) shall be as follows:

(a) The VOC emissions from the Starch Reactor System (SP46) shall not exceed 1.0 lb per ten (10) hour period.

(b) To ensure that the fugitive VOC emissions from the Starch Reactor System (SP46) are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program.

(c) The VOC emissions from the Starch Dryer (SP49), including process and combustion emissions, shall be less than 7.7 pounds per hour.

D.8.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Starch Dryer (SP49) shall be as follows:

(a) The SO2 emissions, when combusting natural gas, shall not exceed 0.6 lb/MMCF and 0.02 lb/hr.

D.8.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for CO [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (BACT) for CO for the Starch Dryer shall be good combustion practices.

D.8.6 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.8.7 Particulate Control

In order to assure compliance with the emission limitations established in this section, the control devices shall be in operation at all times the respective processes are in operation, as indicated in the table below:

<table>
<thead>
<tr>
<th>Control</th>
<th>Process</th>
<th>Pollutant(s) Controlled</th>
<th>Condition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Vent Filter SPC64</td>
<td>Soda Ash Storage Bin</td>
<td>PM and PM10</td>
<td>D.8.1</td>
</tr>
<tr>
<td>Scrubber SPC49</td>
<td>Starch Dryer</td>
<td>PM and PM10</td>
<td>D.8.1</td>
</tr>
<tr>
<td>Bin Vent Filter SPC50</td>
<td>Starch Storage System</td>
<td>PM and PM10</td>
<td>D.8.1</td>
</tr>
<tr>
<td>Baghouse SPC44a</td>
<td>Starch Loadout System non-fugitive control</td>
<td>PM and PM10</td>
<td>D.8.1</td>
</tr>
<tr>
<td>Dust Collector SPC44b</td>
<td>Starch Loadout System fugitive control</td>
<td>PM and PM10</td>
<td>D.8.1</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.

**D.8.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]**

In order to demonstrate compliance with Conditions D.8.1, D.8.2, and D.8.3, the Permittee shall perform PM, PM10, NOx and VOC testing for Scrubber SPC49, when the Starch Dryer is in operation, 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. PM10 includes filterable and condensable PM.

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

**D.8.9 Scrubber Monitoring [40 CFR 64]**

- **(a)** The Permittee shall monitor and record the exhaust air stream pressure drop and scrubbant flow rate of Scrubber SPC49 at least once per day when the associated process is in operation.

- **(b)** **Exhaust Air Stream Pressure Drop**  
  When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is an exhaust air stream pressure drop between 4.0 and 12.0 inches of water, unless a different upper-bound or lower-bound value for this range 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. An exhaust air stream pressure drop 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.

- **(c)** **Scrubbant Flow Rate**  
  When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a scrubbant flow rate of 400 gallons per minute or greater, unless a different minimum 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 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 instrument 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.

**D.8.10 Scrubber Failure Detection [40 CFR 64]**

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).
D.8.11 Baghouse/Collector Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across Baghouse SPC44a and Dust Collector SPC44b used in conjunction with the Starch Loadout System at least once per day when the associated process is in operation. When for any one reading, the pressure drop across a baghouse or dust collector is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse SPC44a</td>
<td>Starch Loadout System, non-fugitive emissions</td>
<td>1.0 - 6.0</td>
</tr>
<tr>
<td>Dust Collector SPC44b</td>
<td>Starch Loadout System, fugitive emissions</td>
<td>0.5 - 6.0</td>
</tr>
</tbody>
</table>

The instrument 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.

D.8.12 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from and the Starch Loadout System (Stacks SP44a and SP44b) 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.8.13 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Starch Storage System (Stack SP50) and the Starch Reactor Dry Soda Ash Feed System (Stack SP64) 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.8.14 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

(a) For a single compartment baghouse, filter, or dust collector 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, filter, or dust collector 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, filter, or dust collector failure can be indicated by a significant drop in the baghouse, filter, or dust collector 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.8.15 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.3(b), the Permittee shall maintain a copy of the most recent version of the visual inspection and maintenance program and any supporting documentation.

(b) To document the compliance status with Condition D.8.9, the Permittee shall maintain daily records of the pressure drop and scrubtant flow rate for Scrubber SPC49. The Permittee shall include in its daily 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).

(c) To document the compliance status with Condition D.8.11, the Permittee shall maintain daily records of the pressure drop readings for Baghouse SPC44a and Dust Collector SPC44b. The Permittee shall include in its daily record when a pressure drop reading is
not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.8.12 and D.8.13, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks SP64, SP50, SP44a, and SP44b. 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) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.9  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a)(14) One (1) Maltodextrin Production Process, installed in March 2000 and approved in 2015 for modification, consisting of:

(A) One (1) Maltodextrin Cooking System, consisting of:

(i)  One (1) Maltodextrin Cooker, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 65,770 pounds per hour and 38,660 pounds of water per hour, yielding 104,430 pounds of crude Maltodextrin per hour.

(ii) One totally enclosed Maltodextrin Cooking System Discharge Conveyor System, conveying crude Maltodextrin received from the Maltodextrin Cooker to the Maltodextrin Filtration System at a nominal design rate of 104,430 pounds per hour.

(B) One (1) Maltodextrin Filtration System, consisting of:

(i)  One (1) Maltodextrin Filter, refining crude Maltodextrin received from the Maltodextrin Cooking System Discharge Conveyor System at a nominal design rate of 51,690 pounds per hour.

(ii) One (1) Filtration System Dry Carbon Feed System, consisting of:

(a) One (1) Dry Carbon Storage Bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the Maltodextrin Filtration System at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61 (Carbon Bin Vent), with all emissions exhausted through Stack MP61.

(b) One (1) totally enclosed Carbon Discharge Conveyor System, delivering carbon received from the Carbon Storage Bin to the Filtration System.

(iii) One (1) Filtration Aid System, consisting of:

(a) Two (2) Filter Aid Storage Bins with a total nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltodextrin Filtration System, with particulate emissions controlled by two (2) bin vent collectors, identified as MPC60 (Filter Aid Bin Vent), with emissions exhausted through Stack MP60. Filter aid is only unloaded into one (1) filter aid bin at a time.

(b) One (1) totally enclosed Filter Aid Discharge Conveyor System, delivering filter aid received from the Filter Aid Storage Bins to the Maltodextrin Filtration System.

(iv) One (1) totally enclosed Maltodextrin Filtration System Discharge Conveyor System, conveying refined Maltodextrin from the Maltodextrin Filter to the Maltodextrin Dryer at a nominal design rate of 51,690 pounds per hour.
(C) One (1) Maltodextrin Drying System, re-permitted in 2015 and approved for modification in 2020 to replace the burner, consisting of one (1) 53.5 MMBtu/hr natural gas fired Maltodextrin Dryer, drying Maltodextrin received from the Maltodextrin Filtration System Discharge Conveyor System a nominal design rate of 51,680 pounds per hour, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC39 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC40 (Maltodextrin Dryer WESP), with all emissions exhausted through Stack MP40.

(D) One (1) totally enclosed Maltodextrin Transfer Conveyor System, conveying dried Maltodextrin received from the Maltodextrin Dryer to the Maltodextrin Storage System at a nominal design rate of 28,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42 (Maltodextrin Transfer Baghouse), with all emissions exhausted through Stack MP42.

(E) One (1) Maltodextrin Storage System, consisting of four (4) Maltodextrin Storage Bins with a combined nominal design capacity of 1,000,000 pounds, storing Maltodextrin received from the Maltodextrin Transfer Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed Maltodextrin Loadout System, including one (1) Maltodextrin Screening Process and one (1) Maltodextrin Loadout Process, conveying Maltodextrin received from the Maltodextrin Storage Bins to the Maltodextrin Packaging System at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41 (Maltodextrin Packaging Dust Collector), with all emissions exhausted through Stack MP41.

(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.9.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]**

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177, the Best Available Control Technology (BACT) for PM and PM10 (including filterable and condensable PM10) shall be as follows:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Carbon Storage Bin (Bin Vent Filter MPC61)</td>
<td>MP61</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Maltodextrin Drying System (Scrubber MPC39 and Wet ESP MPC40)</td>
<td>MP40</td>
<td>0.01 gr/dscf 7.64 lb/hr</td>
<td>0.01 gr/dscf 7.64 lb/hr</td>
<td>0%</td>
</tr>
<tr>
<td>Filter Aid Storage Bins (Bin Vent Filters MPC60)</td>
<td>MP60</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Maltodextrin Transfer Conveyor System (Baghouse MPC42)</td>
<td>MP42</td>
<td>0.005 gr/dscf 0.34 lb/hr</td>
<td>0.005 gr/dscf 0.34 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>
D.9.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for SO2 for the Maltodextrin Dryer shall be no control and SO2 emissions shall not exceed 0.0006 lb/MMBtu and 0.052 lb/hr.

D.9.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NOx for the Maltodextrin Dryer shall be as follows:

(a) The NOx emissions from the Maltodextrin Dryer shall be controlled by Good Combustion Practices.

(b) The NOx emissions from the Maltodextrin Dryer shall not exceed 0.075 lb/MMBtu and 6.45 lb/hr.

D.9.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for VOC for the Maltodextrin Dryer shall be as follows:

(a) The VOC emissions from the Maltodextrin Dryer shall be controlled by Scrubber MPC39.

(b) The overall VOC control efficiency for Scrubber MPC39 shall be at least 90% or the VOC outlet concentration shall not exceed 20 ppmv.

(c) The VOC emissions from Stack MP40 shall not exceed 7.03 lb/hr, including process and combustion emissions.

D.9.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for CO [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-35177-00046 and SSM 027-42301-00046, the Best Available Control Technology (BACT) for CO for the Maltodextrin Dryer shall be as follows:

(a) The CO emissions from the Maltodextrin Dryer shall be controlled by Good Combustion Practices.

(b) The CO emissions from the Maltodextrin Dryer shall not exceed 0.183 lb/MMBtu and 9.79 lb/hr.

D.9.6 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plans required by this condition.
Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.9.7 PM, PM10, and VOC Control

In order to assure compliance with the emission limitations established in this section, the control devices shall be in operation at all times the respective processes are in operation, as indicated in the table below:

<table>
<thead>
<tr>
<th>Control</th>
<th>Process</th>
<th>Pollutant(s) Controlled</th>
<th>Condition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bin Vent Filter MPC61</td>
<td>Maltodextrin Filtration System Dry Carbon Storage Bin</td>
<td>PM and PM10</td>
<td>D.9.1</td>
</tr>
<tr>
<td>Bin Vent Filters MPC60</td>
<td>Maltodextrin Filter Aid Storage Bins</td>
<td>PM and PM10</td>
<td>D.9.1</td>
</tr>
<tr>
<td>Baghouse MPC42</td>
<td>Maltodextrin Transfer Conveyor System</td>
<td>PM and PM10</td>
<td>D.9.1</td>
</tr>
<tr>
<td>Bin Vent Filter MPC44</td>
<td>Maltodextrin Storage System</td>
<td>PM and PM10</td>
<td>D.9.1</td>
</tr>
<tr>
<td>Dust Collector MPC41</td>
<td>Maltodextrin Loadout System</td>
<td>PM and PM10</td>
<td>D.9.1</td>
</tr>
<tr>
<td>Scrubber MPC39</td>
<td>Maltodextrin Drying System</td>
<td>PM, PM10, VOC</td>
<td>D.9.1, D.9.4</td>
</tr>
<tr>
<td>Wet Electrostatic Precipitator MPC40 (once installed)</td>
<td>Maltodextrin Drying System</td>
<td>PM, PM10</td>
<td>D.9.1</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.

D.9.8 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.9.1, the Permittee shall perform PM and PM10 testing on the stack exhaust from Baghouse MPC42 and Dust Collector MPC41, when the respective processes are in operation, 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. PM10 includes filterable and condensable PM.

(b) In order to demonstrate compliance with Conditions D.9.1, D.9.3, D.9.4, and D.9.5, the Permittee shall perform PM, PM10, NOx, VOC, and CO testing on the Maltodextrin Dryer, when the dryer is in operation, 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. PM10 includes filterable and condensable PM.

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

D.9.9 Scrubber Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the exhaust air stream pressure drop and scrubbant flow rate of Scrubber MPC39 at least once per day when the Maltodextrin Dryer is in operation.
(b) Exhaust Air Stream Pressure Drop
When for any one reading, the exhaust air stream pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is an exhaust air stream pressure drop between 3.0 and 12.0 inches of water, unless a different upper-bound or lower-bound value for this range 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. An exhaust air stream pressure drop 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.

(c) Scrubbant Flow Rate
When for any one reading, the scrubbant flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a scrubbant flow rate of 1500 gallons per minute or greater, unless a different minimum 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 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 instrument 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.9.10 Scrubber Failure Detection [40 CFR 64]
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.9.11 Wet Electrostatic Precipitator Monitoring [40 CFR 64]
The Permittee shall record the secondary voltage across the Wet Electrostatic Precipitator MPC40 at least once per day when the Maltodextrin Dryer is in operation. When for any one reading, the secondary voltage is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a secondary voltage reading of 45 kV or greater, unless a different minimum 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 secondary voltage 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.9.12 Baghouse/Collector Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across Baghouse MPC42 and Dust Collector MPC41 at least once per day when the associated processes are in operation. When for any one reading, the pressure drop is outside the normal range, the Permittee shall take a reasonable response. The normal ranges for these units are indicated in the table below, unless a different upper-bound or lower-bound value for these ranges 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 pressure 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.

<table>
<thead>
<tr>
<th>Control Device ID</th>
<th>Units Controlled</th>
<th>Normal Pressure Drop Range (inches of water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baghouse MPC42</td>
<td>Maltodextrin Transfer Conveyor System</td>
<td>1.0 - 8.5</td>
</tr>
<tr>
<td>Dust Collector MPC41</td>
<td>Maltodextrin Loadout System</td>
<td>1.0 - 6.0</td>
</tr>
</tbody>
</table>

The instrument 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.

D.9.13 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the stack exhaust from the Maltodextrin Dryer (Stack MP40), the Maltodextrin Transfer Conveyor System (Stack MP42), and the Maltodextrin Loadout System (Stack MP41) 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.9.14 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Maltodextrin Storage System (Stack MP44) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack exhaust from the Dry Carbon Storage Bin (Stack MP61) and the Filter Aid Storage Bins (Stack MP60) shall be performed once per week during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) 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.
(d) 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.

(e) 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.

(f) 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.9.15 Broken or Failed Bag, Bin Vent Filter, or Dust Collector Detection

(a) For a single compartment baghouse, filter, or dust collector 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, filter, or dust collector 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, filter, or dust collector failure can be indicated by a significant drop in the baghouse, filter, or dust collector 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.9.16 Record Keeping Requirements

(a) To document the compliance status with Condition D.9.9, the Permittee shall maintain daily records of the pressure drop and scrubitant flow rate for Scrubber MPC39. The Permittee shall include in its daily 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).

(b) To document the compliance status with Condition D.9.11, the Permittee shall maintain daily records of the secondary voltage across Wet Electrostatic Precipitator MPC40. The Permittee shall include in its daily 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).

(c) To document the compliance status with Condition D.9.12, the Permittee shall maintain daily records of the pressure drop readings for Baghouse MPC42 and Dust Collectors MPC41. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.9.13 and D.9.14, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts from Stacks MP40, MP42, MP44, and MP41 and weekly records of the visible emission notations of the stack exhausts from Stacks MP60 and MP61. The Permittee shall
include in its daily or weekly 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 or week).

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.10 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) One (1) Anaerobic Wastewater Treatment Process, installed in March 2000, with H2S emissions controlled by a caustic wet scrubber, installed in 2008, identified as UPC55 (Biogas Scrubber).

Upon exiting scrubber UPC55, the biogas can be:

1. Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54 (Biogas Flare), with all emissions exhausted through Stack UP54.
2. Used as fuel in the Germ Dryer.
3. Used as fuel in the Gluten Dryers.
4. Used as fuel in thermal oxidizers FPC34a and FPC34b.

Supporting the Wastewater Treatment Process is a Wastewater Treatment Lime Feed System, consisting of:

5. One (1) Lime Storage Bin, approved in 2008 for construction, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52 (Lime Bin Vent), with emissions exhausted through stack UP52.

(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.10.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for H2S

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for H2S from biogas generation from the anaerobic digestion at the Waste Water Treatment Plant shall be 100% destruction of the H2S by combustion.

(a) All biogas shall be combusted in one (1) or more of the following combustion units:

1. One (1) 18 MMBtu/hr flare (UPC54)
2. One (1) Germ Dryer
3. Two (2) Gluten Dryers
4. Thermal Oxidizers FPC34a and FPC34b

(b) All biogas generated from anaerobic digestion at the Waste Water Treatment Plant shall be scrubbed prior to combustion.

D.10.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 generated during combustion of biogas, shall be as follows:

(a) All biogas shall be controlled by Caustic Wet Scrubber UPC55.
(b) The overall control efficiency for Scrubber UPC55 (including the capture efficiency and adsorption efficiency) shall be at least 90% or the H2S outlet concentration shall not exceed 550 ppm.

(c) The H2S emissions from Scrubber UPC55 shall not exceed 2.44 lbs/hr, which is equivalent to 4.58 lbs/hr of SO2 generated during combustion of biogas.

D.10.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 (PM10 includes filterable and condensable PM) from the Lime Storage Bin shall be as follows:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime Storage Bin (Bin Vent Filter UPC52)</td>
<td>UP52</td>
<td>0.005 gr/dscf</td>
<td>0.05 lb/hr</td>
<td>0.005 gr/dscf</td>
</tr>
</tbody>
</table>

D.10.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.10.5 Hydrogen Sulfide (H2S) and Sulfur Dioxide (SO2)

In order to assure compliance with Conditions D.10.1 and D.10.2:

(a) Scrubber UPC55, used to prevent SO2 emissions by removing H2S from biogas, shall be in operation at all times when biogas is produced from anaerobic digestion at the Waste Water Treatment Plant and combusted in any one (1) or more of the following emission units:

(1) One (1) 18 MMBtu/hr flare (UPC54)
(2) One (1) Germ Dryer
(3) Two (2) Gluten Dryers
(4) Thermal Oxidizers FPC34a and FPC34b

(b) Whenever inspection or maintenance of biogas Scrubber UPC55 or blowers occurs that requires biogas from the Anaerobic Digester be isolated to allow for maintenance to be performed safely, the biogas shall be vented to Flare UPC54.

(c) The Permittee shall measure on a daily basis the hydrogen sulfide content of the treated biogas and the total amount of biogas treated by Scrubber UPC55. Whenever the concentration of hydrogen sulfide in the flow exiting UPC55 exceeds 550 ppm or the amount of biogas vented to the scrubber exceeds 50,000 cubic feet per hour, the Permittee shall calculate an average hourly sulfur dioxide emission rate using the following equation:

\[
\text{lbs SO}_2/\text{hr} = \frac{(\text{mole H}_2\text{S/1E+06 mole Biogas}) \times (2 \text{ mole SO}_2/2 \text{ mole H}_2\text{S}) \times (64.06 \text{ g SO}_2/\text{mole SO}_2) \times (1 \text{ lb/453.59 g}) \times (1 \text{ mole Biogas/24.0 liter Biogas}) \times (28.31 \text{ liter/cuft}) \times (\text{cuft Biogas/hr})}{1 \text{ mole Biogas}}
\]
If untreated biogas is directed to Flare UPC54, the total amount of untreated biogas burned by Flare UPC54 shall be measured and used to calculate an average hourly daily sulfur dioxide emission rate.

D.10.6 Particulate Control

In order to assure compliance with Condition D.10.3, Bin Vent Filter UPC52 for particulate control, shall be in operation and control emissions from the Lime Storage Bin at all times the Lime Storage Bin is 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.

D.10.7 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.10.2, the Permittee shall perform H2S testing on the inlet and outlet of Biogas Scrubber UPC55 while biogas is venting to the scrubber utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. All hydrogen sulfide measured shall be assumed to have been converted to sulfur dioxide in Flare UPC54, the Germ Dryer, the Gluten Dryers or in Thermal Oxidizers FPC34a and FPC34b. 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.10.8 Flare Pilot Flame

When biogas is being routed to Flare UPC54, the Permittee shall maintain a flare pilot flame and continuously monitor the presence of a flare pilot flame for Flare UPC54 using a thermocouple or any other equivalent device to detect the presence of a flame. If a condition exists which should result in a response step, 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.10.9 Monitoring for Scrubber [40 CFR 64]

(a) pH

The Permittee shall monitor and record the pH of the scrubbing liquid of Scrubber UPC55 at least once per day when biogas is generated from the Anaerobic Digestion Process at the Waste Water Treatment Plant. When for any one reading, the pH of the scrubbing liquid is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH reading between 7.8 and 9.3, unless a different upper-bound or lower-bound value is established 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 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) Scrubbant Flow Rate

A continuous monitoring system shall be operated at all times Scrubber UPC55 is in operation. The monitoring system shall continuously measure and record the scrubber flow rate from Scrubber UPC55 controlling biogas emissions. The output of this system
shall be recorded as a 1-hour average. When for any one reading, the 1-hour average scrubber flow rate is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a 1-hour average flow rate of 500 gallons per minute or greater, unless a different lower-bound value is established during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A 1-hour average flow rate reading that is below the above mentioned 1-hour minimum rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.10.10 Scrubber Failure Detection [40 CFR 64]

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.10.11 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the Lime Storage Bin (Stack UP52) shall be performed once per week 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.10.12 Broken or Failed Bin Vent Filter Detection

(a) For a single compartment filter 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 filter 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).

Filter 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.10.13 Record Keeping Requirements

(a) To document the compliance status with Conditions D.10.1, D.10.2, and D.10.5, the Permittee shall maintain:

(1) A log of the daily H2S content after Scrubber UPC55, the total amount of biogas generated, and the total amount of treated and untreated biogas burned in Flare UPC54. The Permittee shall include in its daily log when a record is not taken and the reason for the lack of a record (e.g. the process did not operate that day).

(2) Records of all calculations used to determine the SO2 emissions from the combustion of untreated biogas in Flare UPC54.

(b) To document the compliance status with Condition D.10.8, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when biogas is being routed to Flare UPC54. The Permittee shall include in its record when a reading is not taken and the reason for the lack of reading (e.g. the biogas was not routed to the flare during that time period).

(c) To document the compliance status with Condition D.10.9, the Permittee shall maintain daily records of the scrubber pH and continuous records, as a 1-hour average, of the scrubber flow rate from Scrubber UPC55. 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 or time period).

(d) To document the compliance status with Condition D.10.11, the Permittee shall maintain weekly records of the visible emission notations of the stack exhaust from Stack UP52. The Permittee shall include in its weekly 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 week).

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.11  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities.
Under 40 CFR 63, Subpart DDDDD, these are considered existing affected sources.

(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.11.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for SO2 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for SO2 for Boiler 1 and Boiler 2, shall be as follows:

(a) The SO2 emissions from Boiler 1 and Boiler 2 shall not exceed 0.0006 lb/MMBtu and 0.16 lb/hr each, when combusting natural gas alone.

D.11.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for PM and PM10 for Boiler 1 and Boiler 2 shall be as follows:

(a) The PM and PM10 emissions from Boiler 1 and Boiler 2 shall be controlled through the use of Good Combustion Practices.

(b) The PM emissions from Boiler 1 and Boiler 2 shall not exceed 0.002 lb/MMBtu and 0.542 lb/hr each.

(c) The PM10 emissions from Boiler 1 and Boiler 2 shall not exceed 0.005 lb/MMBtu and 1.36 lb/hr each.

D.11.3 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NOx for Boiler 1 and Boiler 2 shall be as follows:

(a) The NOx emissions from Boiler 1 and Boiler 2 shall be controlled using low NOx burners and flue gas recirculation.

(b) The NOx emissions from Boiler 1 and Boiler 2 shall not exceed 0.05 lb/MMBtu and 13.6 lb/hr each.

(c) The NOx emissions from Boiler 1 and Boiler 2 shall not exceed 0.20 lb/MMBtu and 54.2 lb/hr each, during startup, shutdown, and malfunction.
D.11.4 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for CO [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for CO for Boiler 1 and Boiler 2 shall be as follows:

(a) The CO emissions from Boiler 1 and Boiler 2 shall be controlled using Good Combustion Practices.

(b) The CO emissions from Boiler 1 and Boiler 2 shall not exceed 0.0365 lb/MMBtu and 9.89 lb/hr each.

D.11.5 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for VOC for Boiler 1 and Boiler 2 shall be as follows:

(a) The VOC emissions from Boiler 1 and Boiler 2 shall be controlled through the use of Good Combustion Practices.

(b) The VOC emissions from Boiler 1 and Boiler 2 shall not exceed 0.0015 lb/MMBtu and 0.41 lb/hr each.

D.11.6 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.11.7 Boiler Control Measures

(a) In order to assure compliance with Condition D.11.3, the flue gas recirculation system for NOx control, shall be in operation and control emissions from Boiler 1 or Boiler 2 at all times Boiler 1 or Boiler 2 is in operation.

(b) In order to assure compliance with Conditions D.11.1, D.11.2, D.11.4, and D.11.5, the Permittee shall employ Good Combustion Practices at all times Boiler 1 or Boiler 2 are in operation.

D.11.8 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.11.1, D.11.2, D.11.4, and D.11.5, the Permittee shall perform SO2, PM, PM10, CO, and VOC testing on Boiler 1 or Boiler 2 while combusting natural gas utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be alternated between Boiler 1 and Boiler 2 for each test cycle. 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 includes filterable and condensable PM.
D.11.9 Continuous Emissions Monitoring [326 IAC 3-5][326 IAC 2-7-6(1),(6)][40 CFR 60, Subpart Db][40 CFR 75]

(a) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and in order to demonstrate compliance with Condition D.11.3, continuous emission monitoring systems for Boiler 1 and Boiler 2 shall be calibrated, maintained, and operated for measuring NOx and O2, which meet all applicable performance specifications of 326 IAC 3-5-2.

(b) All continuous emissions monitoring systems required by this permit shall meet all applicable performance specifications of 40 CFR 60 and 40 CFR 75 or any other applicable performance specifications, and 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, 40 CFR 60, Subpart Db, and 40 CFR 75.

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

D.11.10 Continuous Emissions Monitoring (CEMS) Equipment Downtime

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.11.11 NOx Emissions [326 IAC 10-2][ 40 CFR 75]

(a) Pursuant to 326 IAC 10-2-3 (Monitoring Provisions), the Permittee shall comply with the following:

(1) Install monitoring systems 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.

(2) Complete all certification tests required under 326 IAC 10-2-5 and meet all other requirements required under 326 IAC 10-2-3 and 40 CFR 75 applicable to the monitoring systems.

(3) Record, report, and quality assure the data from the monitoring systems.

(4) The designated representative shall submit written notice to the department and U.S. EPA in accordance with 40 CFR 75.61.

(b) Pursuant to 326 IAC 10-2-6 (Data Substitution), 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 of the following:

(1) 40 CFR 75, Subpart D
(2) 40 CFR 75, Subpart H
(3) 40 CFR 75, Appendix D
D.11.12 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.9, the Permittee shall maintain records of the continuous emission monitoring data for NOx and O2 in accordance with 326 IAC 3-5.

(b) To document the compliance status with Condition D.11.10, in the event that a breakdown of the NOx or O2 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) Pursuant to 326 IAC 10-2-8 (Record Keeping and Reporting), the Permittee shall comply with the following record keeping and reporting requirements:

(1) Unless otherwise provided, the owners and operators of each large affected unit at the source shall keep on site each of the following documents:

(A) 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.

(B) All emissions monitoring information, in accordance with section 3 of this rule, with retention for a minimum of three (3) years.

(C) Copies of all reports and other submissions and all records made or required under this rule for a period of five (5) years from the date the document was created.

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

D.11.13 Reporting Requirements [326 IAC 3-5]

(a) The Permittee shall prepare and submit to IDEM, OAQ a written report of the results of the calibration gas audits and relative accuracy test audits for each calendar quarter within thirty (30) calendar days after the end of each quarter. The report must contain the information required by 326 IAC 3-5-5(f)(2). 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).

(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.

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).
Pursuant to 326 IAC 10-2-8 (Record Keeping and Reporting), the designated representative of each large affected unit at the source shall do the following:

1. Submit quarterly reports to U.S. EPA of the NOx mass emissions data and heat input data 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).

2. 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 with add-on NOx ozone season emission controls and for all hours where NOx data are substituted in accordance with 40 CFR 75.34(a)(1), the add-on emission controls were operating within the range of parameters listed in the quality assurance and quality control program under 40 CFR 75, Appendix B and the substitute data values do not systematically underestimate NOx emissions; and
   
   C. for a unit that is reporting on a control period basis under subsection (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.

3. The reports submitted by the Permittee 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).

(d) Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition.
SECTION D.12  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) One (1) Process Water Cooling Tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

(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.12.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology (BACT) for PM and PM10 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (BACT) for PM and PM10 for the process water cooling tower shall be limited as follows:

(a) PM emissions shall not exceed 4.5 pounds per hour.
(b) PM10 emissions shall not exceed 4.5 pounds per hour.
(c) Emissions shall be controlled by mist elimination system APC38.

D.12.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.12.3 Particulate Control

In order to assure compliance with Condition D.12.1, the mist elimination system APC38 for particulate control, shall be in operation and control emissions from the process water cooling tower at all times the process water cooling tower is in operation.
SECTION D.13 EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

(a) One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an existing affected source.

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

(2) One (1) natural gas-fired boiler, identified as Natural Gas Boiler, installed in 1999, with a maximum heat input capacity of 2.1 MMBtu/hr.

Under 40 CFR 63, Subpart DDDDD, this is considered an existing affected source.

(h) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO2; 5 lb/hr or 25 lb/day NOx; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

(1) One (1) parts washer with a design capacity of 23 gallons;

(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.13.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology (BACT) for PM, PM10, SO2, VOC, CO, and NOx [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 and T027-31396-00046, the Best Available Control Technology (BACT) for PM, PM10, SO2, VOC, CO, and NOx for the emergency fire water pump engine shall be as follows:

(a) The amount of diesel fuel burned in the emergency fire water pump engine shall not exceed 1,128 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The sulfur content of diesel fuel burned in the emergency fire water pump engine shall not exceed 0.0015%.

(c) PM, PM10, VOC, NO, and CO emissions shall be reduced through the implementation of Good Combustion Practices.

(d) PM, PM10, VOC, NOx, and CO emissions shall not exceed the limits listed in the table below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Limit (g/hp-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>0.16</td>
</tr>
<tr>
<td>PM10</td>
<td>0.16</td>
</tr>
<tr>
<td>VOC</td>
<td>0.05</td>
</tr>
<tr>
<td>NOx</td>
<td>9.5</td>
</tr>
<tr>
<td>CO</td>
<td>2.01</td>
</tr>
</tbody>
</table>
D.13.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the 2.1 MMBtu/hr Natural Gas Boiler shall be limited to 0.6 pounds per MMBtu heat input.

D.13.3 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]

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

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

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

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

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

D.13.4 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

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

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

D.13.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.13.1(a), the Permittee shall maintain monthly records of the amount of diesel fuel consumed by the emergency fire pump engine.

(b) To document the compliance status with Condition D.13.4, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

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

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

D.13.6 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.13.1(a) shall be submitted no 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 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).
SECTION D.14 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) One (1) maltodextrin process line, transferred pneumatically and approved in 2018 for construction

(1) One (1) Maltodextrin spray dryer, identified as MP80, approved in 2018 for construction, with a maximum capacity of 60,000 pounds per hour of refined maltodextrin, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC79 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC80 (Maltodextrin Dryer WESP), using a natural gas-fired burner with heat input capacity of 57.6 MMBtu/hr, with all emissions exhausted through Stack MP80.

(2) One (1) Maltodextrin transfer PC Receiver, identified as MP82, approved in 2018 for construction, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC82, with all emissions exhausted through Stack MP82.

(3) One (1) Maltodextrin bin tower product receiver, identified as MP85, approved in 2018 for construction, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC85, with all emissions exhausted through Stack MP85.

(4) Four (4) Maltodextrin storage bins, identified as MP84, approved in 2018 for construction, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by bin vent collectors, identified as MPC84 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP84.

(5) One (1) Maltodextrin loading and screening process, identified as MP81, approved in 2018 for construction, with a maximum capacity of 90,000 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC81, with all emissions exhausted through Stack MP81.

(f) Seven (7) maltodextrin tanks, process tanks including feed tanks, reactor and wasted tanks and two (2) vacuum receivers, approved in 2018 for construction.

(g) Five (5) natural gas-fired heaters, approved in 2018 for construction.

(1) One (1) with a maximum capacity of 0.25 MMBtu per hour in building 307
(2) Two (2) with a maximum capacity of 1.5 MMBtu per hour in building 305
(3) One (1) with a maximum capacity of 1.25 MMBtu per hour in building 305
(4) One (1) with a maximum capacity of 0.20 MMBtu per hour in building 305

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)
D.14.1 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for PM, PM10 and PM2.5 [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for PM, PM10 and PM2.5 (including filterable and condensable PM10) shall be as follows:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>BACT Controls</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>PM2.5 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltodextrin Spray Dryer (MP80)</td>
<td>Wet Scrubber and Wet ESP</td>
<td>0.01 gr/dscf 7.83 lb/hr</td>
<td>0.01 gr/dscf 7.83 lb/hr</td>
<td>0.01 gr/dscf 7.83 lb/hr</td>
<td>Opacity shall not exceed 0% based on 6 minute average</td>
</tr>
<tr>
<td>Maltodextrin Transfer PC Receiver (MP82)</td>
<td>Fabric Filter</td>
<td>0.004 gr/dscf 0.31 lb/hr</td>
<td>0.004 gr/dscf 0.31 lb/hr</td>
<td>0.002 gr/dscf 0.12 lb/hr</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Bin Tower Product Receiver (MP85)</td>
<td>Fabric Filter</td>
<td>0.004 gr/dscf 0.31 lb/hr</td>
<td>0.004 gr/dscf 0.31 lb/hr</td>
<td>0.002 gr/dscf 0.12 lb/hr</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Storage Bins (MP84)</td>
<td>Bin Vent Filters</td>
<td>0.004 gr/dscf 0.0041 lb/hr (each)</td>
<td>0.004 gr/dscf 0.0041 lb/hr (each)</td>
<td>0.002 gr/dscf 0.0015 lb/hr (each)</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Screening and Loading Process (MP81)</td>
<td>Fabric Filter</td>
<td>0.004 gr/dscf 0.38 lb/hr</td>
<td>0.004 gr/dscf 0.38 lb/hr</td>
<td>0.002 gr/dscf 0.14 lb/hr</td>
<td>-</td>
</tr>
<tr>
<td>Natural Gas-Fired Forced Air Heaters (Building 307 and Building 305)</td>
<td>Good Combustion Practices</td>
<td>0.0088 lb/hr</td>
<td>0.036 lb/hr</td>
<td>0.036 lb/hr</td>
<td>-</td>
</tr>
</tbody>
</table>

D.14.2 Prevention of Significant Deterioration (PSD) - Best Available Control Technology for VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for VOC shall be as follows:

(a) Maltodextrin Dryer

(1) The VOC emissions from the Maltodextrin Dryer shall be controlled by Scrubber MPC79.

(2) The overall VOC control efficiency for Scrubber MPC79 shall be at least 90% or the VOC outlet concentration shall not exceed 20 ppmv.

(3) The VOC emissions from Stack MP79 shall not exceed 12.27 pounds per hour, including process and combustion emissions.

(b) Tanks

(1) The VOC emissions from the Maltodextrin tanks shall each not exceed 0.048 pounds per hour.

(2) The VOC emissions from the Vacuum tanks shall each not exceed 0.054 pounds per hour.

(c) Natural Gas-Fired Forced Air Heaters (Building 307 and Building 305)
(1) The forced air heaters shall combust natural gas.

(2) The forced air heaters shall be controlled by good combustion practices.

(3) VOC emissions from the forced air heaters shall not exceed 0.026 lb/hour.

D.14.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.14.4 Particulate and VOC Control

In order to assure compliance with Conditions D.14.1 and D.14.2, the control devices shall be in operation and control emissions from the respective processes at all times the respective processes are in operation, as indicated in the table below:

<table>
<thead>
<tr>
<th>Control</th>
<th>Process</th>
<th>Pollutant(s) Controlled</th>
<th>Condition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Scrubber and Wet ESP</td>
<td>Maltodextrin Spray Dryer (Source MP80)</td>
<td>PM, PM10, PM2.5 VOC</td>
<td>D.14.1, D.14.2</td>
</tr>
<tr>
<td>Baghouse</td>
<td>Maltodextrin Transfer PC Receiver (Source MP82)</td>
<td>PM, PM10, PM2.5</td>
<td>D.14.1</td>
</tr>
<tr>
<td>Baghouse</td>
<td>Maltodextrin Bin Tower Product Receiver (Source MP85)</td>
<td>PM, PM10, PM2.5</td>
<td>D.14.1</td>
</tr>
<tr>
<td>Baghouse</td>
<td>Maltodextrin Storage Bins (Source MP84)</td>
<td>PM, PM10, PM2.5</td>
<td>D.14.1</td>
</tr>
<tr>
<td>Baghouse</td>
<td>Maltodextrin Screening and Loading Process (Source MP81)</td>
<td>PM, PM10, PM2.5</td>
<td>D.14.1</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.

D.14.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Not later than 180 days after the startup of Maltodextrin Transfer PC Receiver, Maltodextrin Bin Tower Product Receiver, Maltodextrin Screening and Loading Process, the Permittee shall perform PM, PM10 and PM2.5 testing of the baghouses MPC82, MPC85, and MPC81 utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

(b) Not later than 180 days after the startup of Maltodextrin Spray Dryer (Source MP80), the Permittee shall perform PM, PM10 and PM2.5 and VOC testing of the Scrubber (MPC79) & Wet ESP (MPC80) utilizing methods approved by the commissioner at least once every
5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. 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.14.6 Scrubber Flow Rate

(a) The Permittee shall monitor and record the flow rate of the scrubber MPC79 at least once per day when the associated processes are 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 1500 gallons per minute or greater.

(b) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with limits in Condition D.14.1 and D.14.2.

(c) 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.

(d) 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 response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.14.7 Parametric Monitoring

(a) The Permittee shall monitor and record the exhaust air stream pressure drop across the MPC79 at least once per day when the associated processes are in operation. When for any one reading, the exhaust air stream pressure drop across a scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is between 3.0 and 12.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

(b) 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.

D.14.8 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.14.9 Wet Electrostatic Precipitator Monitoring

(a) The ability of the ESP to control particulate emissions shall be monitored once per day, when the unit is in operation, by measuring and recording the number of T-R sets in service and the secondary voltages and the currents of the T-R sets.

(b) Whenever the percentage of T-R sets in service falls below ninety percent (90%), the Permittee shall take a reasonable response.

(c) From the date of startup until the stack test results are available, the Permittee shall operate the ESP with the total power (kilovolt-amperes) at or above 45 kVA.

(d) The Permittee shall determine the total power (kVA) from the latest valid stack test that demonstrates compliance with limits in Condition D.14.1.

(e) On and after the date the stack test results are available, the Permittee shall operate the ESP at or above the total power (kVA) as observed during the latest compliant stack test.

(f) Section C – Response to Excursions and Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. T-R set failure resulting in less than ninety percent (90%) availability is not a deviation from this permit. A kVA reading that is below the above mentioned value is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.14.10 Visible Emissions Notations

(a) Visible emission notations of MPC79, MPC80, MPC81, MPC82, MPC84, and MPC85 stack exhausts 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 and 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.14.11 Broken or Failed Bag, Bin Vent Filter, or Dust Collector 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.14.12 Record Keeping Requirements

(a) To document the compliance status with Condition D.14.6, the Permittee shall maintain daily records of the flow rate for the scrubber. 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).

(b) To document the compliance status with Condition D.14.7, the Permittee shall maintain daily records of the pressure drop for the scrubber. 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) To document the compliance status with Condition D.14.9, the Permittee shall maintain daily records of the number of T-R sets in service and the secondary voltages and currents of the T-R sets. The Permittee shall include in its daily 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).

(d) To document the compliance status with Condition D.14.10, the Permittee shall maintain records of daily visible emission notations of the baghouse(s) stack exhausts. 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) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
### Emissions Unit Description:

(c) Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities.
Under 40 CFR 63, Subpart DDDDD, these are considered existing affected sources.

(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 Part 60, Subpart Db. |
| (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 Industrial-Commercial-Institutional Steam Generating Units NSPS [326 IAC 12] [40 CFR Part 60, Subpart Db]**

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Db (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 60.40b(a), (g), (j) |
| (2) | 40 CFR 60.41b |
| (3) | 40 CFR 60.44b(h), (i), (l) |
| (4) | 40 CFR 60.46b(a), (c), (e)(1), (e)(3) |
| (5) | 40 CFR 60.48b(b), (c), (d), (e)(2), (e)(3), (f) |
| (6) | 40 CFR 60.49b(a), (b), (d)(1), (g), (h)(2), (i), (o), (v), (w) |
Emissions Unit Description:

(a)(12) One (1) Alcohol Production Process, installed in March 2000, consisting of:

(F) One (1) Alcohol Storage System, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the Alcohol Distillation System, consisting of:

(ii) Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:

(a) Three (3) 200 proof day lot tanks (#1-3), identified as TK-106-010, TK-106-011, and TK-106-012, each with a capacity of 41,800 gallons.

(b) Two (2) 200 proof warehouse tanks (#1-2), identified as TK-106-014 and TK-106-015, each with a capacity of 450,000 gallons.

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

(iii) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

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

(H) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94 (Burn Tank), storing miscellaneous non-beverage grade alcohol received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(I) One (1) Denaturant Storage Tank System, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85 (Denaturant Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86 (Denaturant Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87 (Denaturant Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87.

Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.
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 Kb.

(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 Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 NSPS [326 IAC 12] [40 CFR Part 60, Subpart Kb]

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

(a) For Tanks AP85, AP86, AP87 and AP94:

(1) 40 CFR 60.110b(a), (b), (d)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(1)
(4) 40 CFR 60.113b(a)
(5) 40 CFR 60.114b
(6) 40 CFR 60.115b(a)
(7) 40 CFR 60.116b(a), (b), (c), (e)
(8) 40 CFR 60.117b


(1) 40 CFR 60.110b(a), (b), (d)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(3)
(4) 40 CFR 60.113b(d)
(5) 40 CFR 60.114b
(6) 40 CFR 60.115b(d)
(7) 40 CFR 60.116b(a), (b), (e), (g)
(8) 40 CFR 60.117b
SECTION E.3 NSPS

Emissions Unit Description:

All facilities subject to 40 CFR Part 60, Subpart VV - including pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service within components assembled to produce ethanol, as intermediate or final products, that commenced construction, reconstruction, or modification after January 5, 1981 and on or before November 7, 2006.

(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.3.1 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 VV.

(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


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

(1) 40 CFR 60.480
(2) 40 CFR 60.481
(3) 40 CFR 60.482-1
(4) 40 CFR 60.482-2
(5) 40 CFR 60.482-3
(6) 40 CFR 60.482-4
(7) 40 CFR 60.482-5
(8) 40 CFR 60.482-6
(9) 40 CFR 60.482-7
(10) 40 CFR 60.482-8
(11) 40 CFR 60.482-9
(12) 40 CFR 60.482-10
(13) 40 CFR 60.483-1
(14) 40 CFR 60.483-2
(15) 40 CFR 60.485
(16) 40 CFR 60.486
(17)  40 CFR 60.487
(18)  40 CFR 60.488
(19)  40 CFR 60.489
SECTION E.4  NSPS

Emissions Unit Description:

All facilities subject to 40 CFR Part 60, Subpart VVa - including pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service within components assembled to produce ethanol, as intermediate or final products, that commenced construction, reconstruction, or modification after November 7, 2006.

(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.4.1  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 VVa.

(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.4.2  Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 NSPS [326 IAC 12] [40 CFR Part 60, Subpart VVa]

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

(1) 40 CFR 60.480a
(2) 40 CFR 60.481a
(3) 40 CFR 60.482-1a
(4) 40 CFR 60.482-2a
(5) 40 CFR 60.482-3a
(6) 40 CFR 60.482-4a
(7) 40 CFR 60.482-5a
(8) 40 CFR 60.482-6a
(9) 40 CFR 60.482-7a
(10) 40 CFR 60.482-8a
(11) 40 CFR 60.482-9a
(12) 40 CFR 60.482-10a
(13) 40 CFR 60.482-11a
(14) 40 CFR 60.483-1a
(15) 40 CFR 60.483-2a
(16) 40 CFR 60.484a
(17) 40 CFR 60.485a
(18) 40 CFR 60.486a
(19) 40 CFR 60.487a
(20) 40 CFR 60.488a
(21) 40 CFR 60.489a
SECTION E.5  NESHAP

Emissions Unit Description:

All facilities part of the affected source subject to 40 CFR Part 63, Subpart FFFF involved in the manufacture of fuel grade ethanol - including storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems; heat exchange systems; wastewater and waste management units, as identified in 40 CFR 63.2440(b).

This 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 FFFF.

(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 FFFF (included as Attachment F to the operating permit), which are incorporated by reference as 326 IAC 20-84, for the emission unit(s) listed above:

(1) 40 CFR 63.2430
(2) 40 CFR 63.2435(a), (b), (d), (e)
(3) 40 CFR 63.2440
(4) 40 CFR 63.2445(b), (c), (d), (e), (f)
(5) 40 CFR 63.2450
(6) 40 CFR 63.2455
(7) 40 CFR 63.2460
(8) 40 CFR 63.2470
(9) 40 CFR 63.2475
(10) 40 CFR 63.2480
(11) 40 CFR 63.2485
(12) 40 CFR 63.2490
(13) 40 CFR 63.2515
(14) 40 CFR 63.2520
(15) 40 CFR 63.2525
(16) 40 CFR 63.2535
(17) 40 CFR 63.2540
(18) 40 CFR 63.2545
(19) 40 CFR 63.2550
(20) Table 1 to Subpart FFFF of Part 63
(21) Table 2 to Subpart FFFF of Part 63
(22) Table 4 to Subpart FFFF of Part 63
(23) Table 5 to Subpart FFFF of Part 63
(24) Table 6 to Subpart FFFF of Part 63
(25) Table 7 to Subpart FFFF of Part 63
(26) Table 8 to Subpart FFFF of Part 63
(27) Table 9 to Subpart FFFF of Part 63
(28) Table 10 to Subpart FFFF of Part 63
(29) Table 11 to Subpart FFFF of Part 63
(30) Table 12 to Subpart FFFF of Part 63


The Permittee may comply with the requirements of 40 CFR 63, Subpart H (included as Attachment G to the operating permit), which are incorporated by reference as 326 IAC 20-11 and 326 IAC 20-12, as referenced in 40 CFR 63, Subpart FFFF.

E.5.4 National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process NESHAP [40 CFR 63, Subpart SS][326 IAC 20-39]

The Permittee may comply with the requirements of 40 CFR 63, Subpart SS (included as Attachment H to the operating permit), which are incorporated by reference as 326 IAC 20-39, as referenced in 40 CFR 63, Subpart FFFF.

E.5.5 National Emission Standards for Equipment Leaks - Control Level 2 Standards NESHAP [40 CFR 63, Subpart UU][326 IAC 20-41]

The Permittee may comply with the requirements of 40 CFR 63, Subpart UU (included as Attachment I to the operating permit), which are incorporated by reference as 326 IAC 20-41, as referenced in 40 CFR 63, Subpart FFFF.

E.5.6 National Emission Standards for Storage Vessels (Tanks) - Control Level 2 NESHAP [40 CFR 63, Subpart WW][326 IAC 20-43]

The Permittee may comply with the requirements of 40 CFR 63, Subpart WW (included as Attachment J to the operating permit), which are incorporated by reference as 326 IAC 20-43, as referenced in 40 CFR 63, Subpart FFFF.

E.5.7 Equipment Leaks [40 CFR 65, Subpart F]

The Permittee may comply with the requirements of 40 CFR 65, Subpart F as referenced in 40 CFR 63, Subpart FFFF.
SECTION E.6  NESHAP

Emissions Unit Description:

Insignificant Activity:

(a) One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57.

Under 40 CFR 63, Subpart ZZZZ, this unit 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 K to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (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), (d), (e), (f)
(9) 40 CFR 63.6645(a)(5)
(10) 40 CFR 63.6650(d), (f)
(11) 40 CFR 63.6655(a), (d), (e)(2), (f)(1)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
(15) 40 CFR 63.6675
(16) Table 2c of 40 CFR 63, Subpart ZZZZ (1)
(17) Table 6 of 40 CFR 63, Subpart ZZZZ (9)
(18) Table 8 of 40 CFR 63, Subpart ZZZZ
SECTION E.7  NESHAP

Emissions Unit Description:

(c) Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities.
Under 40 CFR 63, Subpart DDDDD, these are considered existing affected sources.

Insignificant Activity:

(f)(2) One (1) natural gas-fired boiler, identified as Natural Gas Boiler, installed in 1999, with a maximum heat input capacity of 2.1 MMBtu/hr.

Under 40 CFR 63, Subpart DDDDD, this 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 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


The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart DDDDD (included as Attachment L to the operating permit), which are incorporated by reference as 326 IAC 20-95.

(a) For Boiler 1 and Boiler 2:

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a), (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 63.7501
(8) 40 CFR 63.7505(a)
(9) 40 CFR 63.7510(e), (j)
(10) 40 CFR 63.7515(d)
(11) 40 CFR 63.7530(d), (e)
(12) 40 CFR 63.7540(a)(10), (a)(13), (b)
(13) 40 CFR 63.7545(a), (b), (f), (h)
(14) 40 CFR 63.7550(a), (b), (c), (h)
(15) 40 CFR 63.7555(a)
(16) 40 CFR 63.7560
(17) 40 CFR 63.7565
(18) 40 CFR 63.7570
(19) 40 CFR 63.7575
(20) Table 3 to Subpart DDDDD of Part 63, items 3 and 4
(21) Table 9 to Subpart DDDDD of Part 63
(22) Table 10 to Subpart DDDDD of Part 63

(b) For Small Natural Gas Boiler:

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a), (d)
(4) 40 CFR 63.7495(b), (d)
(5) 40 CFR 63.7499(l)
(6) 40 CFR 63.7500(a)(1), (a)(3), (e), (f)
(7) 40 CFR 63.7501
(8) 40 CFR 63.7505(a)
(9) 40 CFR 63.7510(e), (j)
(10) 40 CFR 63.7515(d)
(11) 40 CFR 63.7530(d), (e)
(12) 40 CFR 63.7540(a)(12), (a)(13), (b)
(13) 40 CFR 63.7545(a), (b), (h)
(14) 40 CFR 63.7550(a), (b), (c), (h)
(15) 40 CFR 63.7555(a)
(16) 40 CFR 63.7560
(17) 40 CFR 63.7565
(18) 40 CFR 63.7570
(19) 40 CFR 63.7575
(20) Table 3 to Subpart DDDDD of Part 63, items 1 and 4
(21) Table 9 to Subpart DDDDD of Part 63
(22) Table 10 to Subpart DDDDD of Part 63
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: Grain Processing Corporation
Source Address: 1443 S 300 W, Washington, Indiana 47501
Part 70 Permit No.: T027-42694-00046

This form consists of 2 pages

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
  • The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
  • The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:
If any of the following are not applicable, mark N/A

<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, SO₂, VOC, NOₓ, 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: _________________________________________________________
Source Name: Grain Processing Corporation
Source Address: 1443 S 300 W, Washington, Indiana 47501
Part 70 Permit No.: T027-42694-00046
Facility: Emergency fire water pump engine
Parameter: Diesel fuel usage
Limit: 1,128 gallons per twelve (12) consecutive month period

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<th>QUARTER:</th>
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<td>Fuel Use (gallons)</td>
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<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
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☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.

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: Grain Processing Corporation
Source Address: 1443 S 300 W, Washington, Indiana 47501
Part 70 Permit No.: T027-42694-00046
Facility: Regenerative Thermal Oxidizers FPC34a and FPC34b
Parameter: SO2 emissions from natural gas and/or biogas combusted
Limit: SO2 emissions shall be less than forty (40) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER:</th>
<th>YEAR:</th>
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<tbody>
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<td>SO2 (tons)</td>
<td>SO2 (tons)</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: ___________________________________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Grain Processing Corporation
Source Address: 1443 S 300 W, Washington, Indiana 47501
Part 70 Permit No.: T027-42694-00046
Facility: Regenerative Thermal Oxidizers FPC34a and FPC34b
Parameter: NOx emissions from natural gas and/or biogas combusted
Limit: NOx emissions shall not exceed forty-three (43) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: ___________________ YEAR: ___________________

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<tr>
<td>Previous 11 Months</td>
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<tr>
<td>12 Month Total</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: ___________________________________________________________
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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<tr>
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<th>Duration of Deviation:</th>
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<td>Probable Cause of Deviation:</td>
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<tr>
<td>Response Steps Taken:</td>
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<tr>
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Form Completed by: ____________________________

Title / Position: ____________________________

Date: _______________________________________

Phone: ______________________________________
FUGITIVE DUST CONTROL PLAN

INTRODUCTION

Grain Processing Corporation (GPC) has prepared this fugitive dust control plan (FDCP) in order to satisfy the regulatory requirements codified in Title 326 of the Indiana Administrative Code Article 6 Rule 5 (326 IAC 6-5). The purpose of this FDCP is to ensure that reasonable control measures (RCM) are utilized at the facility to minimize the quantity of fugitive dust generated at the source. Fugitive dust is defined as particulate matter which is emitted from any source by means other than a stack. The FDCP includes the descriptions of all processes which have the potential to emit fugitive dust, the locations of the potential fugitive emission units, descriptions of the control measures to be implemented, a schedule of compliance and record keeping requirements of the FDCP. A site map indicating the locations of GPC’s processes that emit fugitive emissions is attached to this plan.

FACILITY INFORMATION

Source Address: Grain Processing Corporation
1443 S 300 W
Washington, Indiana 47501

Source Owner/Operator Responsible for Execution of FDCP:
Ms. Wendy Bouvier, Environmental Services Manager

Aggregate Storage Piles

Description of Emission Source
The corn feed is stored in a four side enclosure with a large roll up door on one end that is always open. A front end loader or skid steer is used inside of the feed warehouse to move feed into a hopper. Spent carbon is stored in a three side quonset hut structure. Dump trucks are used to take the spent carbon to the carbon bay. Once the carbon is in the bay, a front end loader is used to load up a dump truck and remove the spent carbon.

<table>
<thead>
<tr>
<th>Material Stored</th>
<th>Storage Capacity (tons)</th>
<th>Maximum Throughput (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Feed</td>
<td>1300</td>
<td>875,000</td>
</tr>
<tr>
<td>Spent Carbon</td>
<td>25</td>
<td>2,187</td>
</tr>
</tbody>
</table>

Table 2 summarizes the type of equipment located on site to maintain the corn feed storage piles and spent carbon piles on-site.
TABLE 2
Equipment Used to Maintain Storage Piles

<table>
<thead>
<tr>
<th>Type of Equipment</th>
<th>Material Handled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front End Loader</td>
<td>Corn Feed/Spent Carbon</td>
</tr>
<tr>
<td>Dump Trucks</td>
<td>Spent Carbon</td>
</tr>
<tr>
<td>Skid Steer</td>
<td>Corn Feed</td>
</tr>
</tbody>
</table>

Fugitive Dust Control Measures
The feed warehouse is actually a four side structure with a large roll up door on one end that is always open. A front end loader or skid steer is used inside of the feed warehouse to move feed into a hopper. Feed is not moved in or out of the warehouse. The carbon bay is a three side Quonset hut structure. Dump trucks are used to take the spent carbon to the carbon bay. Once the carbon is in the bay, a front end loader is used to load up a dump truck and remove the spent carbon.

Paved Roads and Parking Lots

Description of Emission Source
GPC has paved roads and parking lots consisting of asphalt and concrete located throughout the facility. The paved roads allow corn trucks, alcohol trucks, maltodextrin trucks, meal trucks, feed trucks, employee vehicles, and other support vehicles to travel to the grain receiving and product load-out buildings, the spent carbon bay and the parking areas.

Vehicular Activity
Table 1 summarizes the type of vehicles that utilize the paved roads as well as an approximate number of each type of vehicle that travels the paved roads per day.

TABLE 3
Vehicular Activity on Paved Roads

<table>
<thead>
<tr>
<th>Type of Vehicle</th>
<th>Number per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Trucks</td>
<td>101</td>
</tr>
<tr>
<td>Alcohol Trucks</td>
<td>14</td>
</tr>
<tr>
<td>Maltodextrin Trucks</td>
<td>7.2</td>
</tr>
<tr>
<td>Meal Trucks</td>
<td>1.0</td>
</tr>
<tr>
<td>Feed Trucks</td>
<td>21</td>
</tr>
</tbody>
</table>

Fugitive Dust Control Measures
GPC will post and enforce a speed limit of 10 miles per hour to reduce fugitive dust emissions. GPC will manually sweep up any spilled corn or DDGS on paved roads as needed. On a weekly basis, GPC will survey the paved roads for relative dust conditions. Based on these conditions, the Manager of Environmental Services will make the decision to chemically treat the roadways with an approved dust abatement chemical for longer term dust control, or to sweep or wet the roadways with clean water for short-term, temporary dust control.
Description of Emission Source
GPC has unpaved roads and parking lots which are used primarily for employee and truck traffic. The unpaved roads receive minimal traffic (approximately one vehicle per day or less).

Fugitive Dust Control Measures
On a weekly basis, GPC will survey the unpaved roads for relative dust conditions. Based on these conditions, the Manager of Environmental Services will make the decision to chemically treat the roadways with an approved dust abatement chemical for longer term dust control, or to sweep or wet the roadways with clean water for short-term, temporary dust control.

Compliance Schedule
GPC will comply with the FDCP immediately.

Recordkeeping Requirements
Documentation of chemical treating, roadway watering, inspecting, and wet sweeping activities will be done by GPC.
§60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides (NOx) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the PM and NOx standards under this subpart and to the sulfur dioxide (SO2) standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the NOx standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the NOx standards under this subpart and the PM and SO2 standards under subpart D (§60.42 and §60.43).

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

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the NOx and PM standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (TRS) as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.
(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

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

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

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

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

(l) Affected facilities that also meet the applicability requirements under subpart BB of this part (Standards of Performance for Kraft Pulp Mills) are subject to the SO2 and NOX standards under this subpart and the PM standards under subpart BB.

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


§60.41b Definitions.

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

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide (CO2) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants mean industrial plants that are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.
Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct 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 kJ/kg (6,000 Btu/lb) on a dry basis.

Cogeneration, also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

Coke oven gas means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

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

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

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

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

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

Emerging technology means any SO2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

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

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

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

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.
Gaseous fuel means any fuel that is a gas at ISO conditions. This includes, but is not limited to, natural gas and gasified coal (including coke oven gas).

Gross output means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output or to enhance the performance of the unit (i.e., steam delivered to an industrial process).

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

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

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

High heat release rate means a heat release rate greater than 730,000 J/sec-m$^3$ (70,000 Btu/hr-ft$^3$).

ISO Conditions means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m$^3$ (70,000 Btu/hr-ft$^3$) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

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

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means:

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

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

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

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.
Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical SO\textsubscript{2} emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems. For gasified coal or oil that is desulfurized prior to combustion, the Potential sulfur dioxide emission rate is the theoretical SO\textsubscript{2} emissions (ng/J or lb/MMBtu heat input) that would result from combusting fuel in a cleaned state without using any post combustion emission control systems.

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

Pulp and paper mills means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units. Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or heats any heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

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

Temporary boiler means any gaseous or liquid fuel-fired steam generating unit 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 steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

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

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

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.
**Very low sulfur oil** means for units constructed, reconstructed, or modified on or before February 28, 2005, oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO₂ emission control, has a SO₂ emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and not located in a noncontinental area, **very low sulfur oil** means oil that contains no more than 0.30 weight percent sulfur or that, when combusted without SO₂ emission control, has a SO₂ emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and located in a noncontinental area, **very low sulfur oil** means oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO₂ emission control, has a SO₂ emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

**Wet flue gas desulfurization technology** means a SO₂ control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

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

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


§60.42b Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction) and the emission limit determined according to the following formula:

\[
E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}
\]

Where:

\( E_s \) = SO₂ emission limit, in ng/J or lb/MMBtu heat input;

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

\( K_b = 340 \) ng/J (or 0.80 lb/MMBtu);

\( H_a = \) Heat input from the combustion of coal, in J (MMBtu); and

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

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction,
or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain SO2 in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO2 emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable. For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of SO2 emissions, shall cause to be discharged into the atmosphere any gases that contain SO2 in excess of 50 percent of the potential SO2 emission rate (50 percent reduction) and that contain SO2 in excess of the emission limit determined according to the following formula:

\[
E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}
\]

Where:

- \(E_s\) = SO2 emission limit, in ng/J or lb/MMBtu heat input;
- \(K_c = 260\) ng/J (or 0.60 lb/MMBtu);
- \(K_d = 170\) ng/J (or 0.40 lb/MMBtu);
- \(H_c = \) Heat input from the combustion of coal, in J (MMBtu); and
- \(H_d = \) Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain SO2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section. For facilities complying with paragraphs (d)(1), (2), or (3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

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

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from
combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating
unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or
percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits
under this section is determined on a 24-hour average basis for affected facilities that (1) have a federally enforceable
permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do
not combust any other fuel.

(g) Except as provided in paragraph (i) of this section and §60.45(b)(a), the SO2 emission limits and percent reduction
requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential SO2 emission rate through fuel pretreatment are not credited toward the percent
reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential SO2 emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO2 control) are equal to or less than
the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas
when the SO2 control system is not being operated because of malfunction or maintenance of the SO2 control
system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The
owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the
definition of very low sulfur oil by: (1) Following the performance testing procedures as described in §60.45(b)(c) or
§60.45(b)(d), and following the monitoring procedures as described in §60.47(b)(a) or §60.47(b)(b) to determine SO2
emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in §60.49(b)(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) of this section, on and after the date on which the
initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no
owner or operator of an affected facility that commences construction, reconstruction, or modification after February
28, 2005, and that combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other
fuels shall cause to be discharged into the atmosphere any gases that contain SO2 in excess of 87 ng/J (0.20
lb/MMBtu) heat input or 8 percent (0.08) of the potential SO2 emission rate (92 percent reduction) and 520 ng/J (1.2
lb/MMBtu) heat input. For facilities complying with the percent reduction standard and paragraph (k)(3) of this section,
only the heat input supplied to the affected facility from the combustion of coal and oil is counted in paragraph (k) of
this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood,
municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas
turbines, internal combustion engines, kilns, etc.

(2) Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other
fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2
emissions limit in paragraph (k)(1) of this section.

(3) Units that are located in a noncontinental area and that combust coal, oil, or natural gas shall not discharge any
gases that contain SO2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215
ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil or natural gas.

(4) As an alternative to meeting the requirements under paragraph (k)(1) of this section, modified facilities that
combust coal or a mixture of coal with other fuels shall not cause to be discharged into the atmosphere any gases
that contain SO2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO2 emission
rate (90 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.
§60.43b Standard for particulate matter (PM).

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

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

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

(3) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal or coal and other fuels and
   (i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,
   (ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less,
   (iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under §60.43b and not using a post-combustion technology (except a wet scrubber) for reducing PM or SO₂ emissions is not subject to the PM limits under §60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce SO₂ emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

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

(2) 86 ng/J (0.20 lb/MMBtu) heat input if (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood;
   (ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood; and
(iii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input;

(i) If the affected facility combusts only municipal-type solid waste; or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less;

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less;

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for municipal-type solid waste, or municipal-type solid waste and other fuels; and

(iv) Construction of the affected facility commenced after June 19, 1984, but on or before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum heat input capacity.

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

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

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input,

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

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and
(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO2 or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO2 or PM emissions is not subject to the PM limits in (h)(1) of this section.


§60.44b Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOX (expressed as NO2) in excess of the following emission limits:

<table>
<thead>
<tr>
<th>Fuel/steam generating unit type</th>
<th>Nitrogen oxide emission limits (expressed as NO2) heat input</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ng/J</td>
</tr>
<tr>
<td>(1) Natural gas and distillate oil, except (4):</td>
<td></td>
</tr>
<tr>
<td>(i) Low heat release rate</td>
<td>43</td>
</tr>
<tr>
<td>(ii) High heat release rate</td>
<td>86</td>
</tr>
<tr>
<td>(2) Residual oil:</td>
<td></td>
</tr>
<tr>
<td>(i) Low heat release rate</td>
<td>130</td>
</tr>
<tr>
<td>(ii) High heat release rate</td>
<td>170</td>
</tr>
<tr>
<td>(3) Coal:</td>
<td></td>
</tr>
<tr>
<td>(i) Mass-feed stoker</td>
<td>210</td>
</tr>
<tr>
<td>Fuel/steam generating unit type</td>
<td>Nitrogen oxide emission limits (expressed as NO$_2$) heat input</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>(ii) Spreader stoker and fluidized bed combustion</td>
<td>260 ng/J, 0.60 lb/MMBTu</td>
</tr>
<tr>
<td>(iii) Pulverized coal</td>
<td>300 ng/J, 0.70 lb/MMBTu</td>
</tr>
<tr>
<td>(iv) Lignite, except (v)</td>
<td>260 ng/J, 0.60 lb/MMBTu</td>
</tr>
<tr>
<td>(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace</td>
<td>340 ng/J, 0.80 lb/MMBTu</td>
</tr>
<tr>
<td>(vi) Coal-derived synthetic fuels</td>
<td>210 ng/J, 0.50 lb/MMBTu</td>
</tr>
</tbody>
</table>

(ii) Spreader stoker and fluidized bed combustion

(iii) Pulverized coal

(iv) Lignite, except (v)

(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace

(vi) Coal-derived synthetic fuels

(4) Duct burner used in a combined cycle system:

(i) Natural gas and distillate oil

(ii) Residual oil

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO$_X$ in excess of a limit determined by the use of the following formula:

\[
N = \frac{(EL_\text{g} H_\text{g}) + (EL_\text{r} H_\text{r}) + (EL_\text{c} H_\text{c})}{H_\text{g} + H_\text{r} + H_\text{c}}
\]

Where:

\(E_n\) = NO$_X$ emission limit (expressed as NO$_2$), ng/J (lb/MMBTu);

\(EL_\text{g}\) = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBTu);

\(H_\text{g}\) = Heat input from combustion of natural gas or distillate oil, J (MMBTu);

\(EL_\text{r}\) = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBTu);

\(H_\text{r}\) = Heat input from combustion of residual oil, J (MMBTu);

\(EL_\text{c}\) = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBTu); and

\(H_\text{c}\) = Heat input from combustion of coal, J (MMBTu).

(c) Except as provided under paragraph (d) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, natural gas (or any combination of the three), and wood, or any other fuel shall cause to be discharged into the atmosphere any gases that contain NO$_X$ in excess of the emission limit for the coal, oil, natural gas (or any combination of the three), combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section. This standard does not apply to an affected facility that is subject to and in compliance with a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, natural gas (or any combination of the three).

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural
gas and/or distillate oil with a potential SO\textsubscript{2} emissions rate of 26 ng/J (0.060 lb/MMBtu) or less with wood, municipal-
type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected
facility any gases that contain NO\textsubscript{X} in excess of 130 ng/J (0.30 lb/MMBtu) heat input unless the affected facility has
an annual capacity factor for natural gas, distillate oil, or a mixture of these fuels of 10 percent (0.10) or less and is
subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor
of 10 percent (0.10) or less for natural gas, distillate oil, or a mixture of these fuels.

(e) Except as provided under paragraph (f) of this section, on and after the date on which the initial performance test
is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an
affected facility that simultaneously combusts only coal, oil, or natural gas with byproduct/waste shall cause to be
discharged into the atmosphere any gases that contain NO\textsubscript{X} in excess of the emission limit determined by the
following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent
(0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an
annual capacity factor of 10 percent (0.10) or less:

\[ \text{NO}_{\text{X}} \text{emissions rate} = \frac{\text{NO}_{\text{X}} \text{emissions from the affected facility}}{\text{heat input}} \]

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may
petition the Administrator within 180 days of the initial startup of the affected facility to establish a NO\textsubscript{X} emission limit
that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include
sufficient and appropriate data, as determined by the Administrator, such as NO\textsubscript{X} emissions from the affected facility,
waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that
the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the
appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NO\textsubscript{X} emission limit under this section
shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section
or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test
as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be
combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in
paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when
gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same
technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this
section.

(2) The NO\textsubscript{X} emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in
paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the
petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NO\textsubscript{X}
emission limit will be established at the NO\textsubscript{X} emission level achievable when the affected facility is combusting oil or
natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NO\textsubscript{X}
emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO\textsubscript{X} limit.
The facility shall use the compliance procedures detailed in the letter and make the letter 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.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40
CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the
affected facility for a waiver from compliance with the NO\textsubscript{X} emission limit that applies specifically to that affected
facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on NO\textsubscript{X}
emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the
quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the
affected facility is able to comply with the NO\textsubscript{X} emission limits required by this section. The owner or operator of the
affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal
destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement
preclude compliance with the NO\textsubscript{X} emission limits of this section. The NO\textsubscript{X} emission limits for natural gas or distillate
oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are
applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70
for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of
amending this subpart, a letter will be sent to the facility describing the facility-specific NOX limit. The facility shall use the compliance procedures detailed in the letter and make the letter 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.

(h) For purposes of paragraph (i) of this section, the NOX standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

1. Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

2. Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

3. Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the NOX emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under 60.8, whichever date is first, no owner or operator of an affected facility that commenced construction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOX (expressed as NO2) in excess of the following limits:

1. 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal, oil, or natural gas (or any combination of the three), alone or with any other fuels. The affected facility is not subject to this limit if it is subject to and in compliance with a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas (or any combination of the three); or

2. If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

   \[ E_n = \frac{0.10 \times H_{g0} + 0.20 \times H_r}{H_{g0} + H_r} \]

   Where:

   \( E_n \) = NOX emission limit, (lb/MMBtu);

   \( H_{g0} \) = 30-day heat input from combustion of natural gas or distillate oil; and

   \( H_r \) = 30-day heat input from combustion of any other fuel.

3. After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of
subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.


§60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO₂ emission standards in §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO₂ control system maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential SO₂ emission rate (%Ps) and the SO₂ emission rate (Es) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO₂ standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A-7 of this part are used to determine the hourly SO₂ emission rate (Eho) and the 30-day average emission rate (Eao). The hourly averages used to compute the 30-day averages are obtained from the CEMS of §60.47b(a) or (b).

(ii) The percent of potential SO₂ emission rate (%Ps) emitted to the atmosphere is computed using the following formula:

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

Where:

\%Ps = Potential SO₂ emission rate, percent;

\%R_g = SO₂ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

\%R_f = SO₂ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

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

(i) An adjusted hourly SO₂ emission rate (Eho°) is used in Equation 19-19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate (Eao°). The Eho° is computed using the following formula:

\[ E_{ho}^{°} = \frac{E_h - E_w (1 - X_d)}{X_d} \]
Where:

\[ E_{h0}^a = \text{Adjusted hourly SO}_2\text{ emission rate, ng/J (lb/MMBtu)}; \]

\[ E_{h0} = \text{Hourly SO}_2\text{ emission rate, ng/J (lb/MMBtu)}; \]

\[ E_w = \text{SO}_2\text{ concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu)}. \] The value \( E_w \) for each fuel lot is used for each hourly average during the time that the lot is being combusted; and

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

(ii) To compute the percent of potential SO\(_2\) emission rate (%P\(_s\)), an adjusted %R\(_g\) (%R\(_{go}\)) is computed from the adjusted \( E_{ao}^a \) from paragraph (b)(3)(i) of this section and an adjusted average SO\(_2\) inlet rate \( (E_{ci}) \) using the following formula:

\[
%R_{g}^a = \frac{100}{1 + \frac{E_{ho}^a}{E_{ho}}} \left( 1 - \frac{E_{w}}{E_{ho}} \right)
\]

To compute \( E_{ci}^a \), an adjusted hourly SO\(_2\) inlet rate \( (E_{ci}) \) is used. The \( E_{ci}^a \) is computed using the following formula:

\[
E_{ci}^a = \frac{E_{wi} - E_w (1 - X_k)}{X_k}
\]

Where:

\[ E_{hi} = \text{Hourly SO}_2\text{ inlet rate, ng/J (lb/MMBtu).} \]

(4) The owner or operator of an affected facility subject to paragraph (c)(3) of this section does not have to measure parameters \( E_w \) or \( X_k \) if the owner or operator elects to assume that \( X_k = 1.0 \). Owners or operators of affected facilities who assume \( X_k = 1.0 \) shall:

(i) Determine %P\(_s\) following the procedures in paragraph (c)(2) of this section; and

(ii) Sulfur dioxide emissions \( (E_d) \) are considered to be in compliance with SO\(_2\) emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters \( E_w \) or \( X_k \) in paragraph (c)(3) of this section if the owner or operator of the affected facility elects to measure SO\(_2\) emission rates of the coal or oil following the fuel sampling and analysis procedures in Method 19 of appendix A-7 of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, natural gas, or a mixture of these fuels, has an annual capacity factor for oil of 0.10 percent (0.10) or less, and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a CEMS is used, or based on a daily
average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the SO2 emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO2 for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

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

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid SO2 emissions data in calculating %Ps and Eho under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid SO2 emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating %Ps and Eho pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO2 control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate %Ps or Eho under §60.42b(a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO2 standard is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance in §§60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NOx emission standards under §60.44b apply at all times.

(b) Compliance with the PM emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of this section.

(c) Compliance with the NOx emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.
(d) To determine compliance with the PM emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

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

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

   (i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

   (ii) 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.

   (iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

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

(5) For determination of PM emissions, the oxygen (O₂) or CO₂ sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

   (i) The O₂ or CO₂ measurements and PM measurements obtained under this section;

   (ii) The dry basis F factor; and

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

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for NOx required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring NOx under §60.48(b).

(1) For the initial compliance test, NOx from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NOx emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed in §60.8, whichever date comes first, the owner or operator of an affected facility which combusts coal (except as specified under §60.46b(e)(4)) or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the NOx emission standards in §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated for each steam
generating unit operating day as the average of all of the hourly NOX emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NOX standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOX emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, gasified coal, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the NOX standards in §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NOX emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NOX emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOX emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of §60.48b(g)(1) apply and the provisions of §60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for NOX required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(i) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

\[ E = E_s + \left( \frac{H_s}{H_b} \right) \left( E_{ct} - E_s \right) \] (Eq.1)

Where:

\[ E \] = Emissions rate of NOX from the duct burner, ng/J (lb/MMBtu) heat input;

\[ E_s \] = Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

\[ H_s \] = Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

\[ H_b \] = Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

\[ E_{ct} \] = Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part or Method 320 of appendix A of part 63 shall be used to determine the NOX concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O2 concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.
(iv) Compliance with the emissions limits under §60.44b(a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under §60.48b for measuring NOx and O2 and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NOx emissions rate at the outlet from the steam generating unit shall constitute the NOx emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method or the heat input method described in sections 5 and 7.3 of the ASME Power Test Codes 4.1 (incorporated by reference, see §60.17). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the NOx emission standards under §60.44b using Method 7, 7A, or 7E of appendix A of this part, Method 320 of appendix A of part 63 of this chapter, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the NOx emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, or 7E of appendix A of this part, Method 320 of appendix A of part 63, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the PM limit in paragraphs §60.43b(a)(4) or §60.43b(h)(5) shall follow the applicable procedures in §60.49b(r).

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

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

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

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

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

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

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

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

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

(ii) [Reserved]

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

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

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

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

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

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

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

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

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


§60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the SO₂ standards in §60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO₂ concentrations and either O₂ or CO₂ concentrations and shall record the output of the systems. For units complying with the percent
reduction standard, the SO₂ and either O₂ or CO₂ concentrations shall both be monitored at the inlet and outlet of the SO₂ control device. If the owner or operator has installed and certified SO₂ and O₂ or CO₂ CEMS according to the requirements of §75.20(c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of §75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, SO₂ concentration data and CO₂ (or O₂) data are collected simultaneously; and

(2) In addition to meeting the applicable SO₂ and CO₂ (or O₂) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of §60.49b are met. SO₂ and CO₂ (or O₂) data used to meet the requirements of §60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the SO₂ data have been bias adjusted according to the procedures of part 75 of this chapter.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emissions and percent reduction by:

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

(2) Measuring SO₂ according to Method 6B of appendix A of this part at the inlet or outlet to the SO₂ control system. An initial stratification test is required to verify the adequacy of the sampling location for Method 6B of appendix A of this part. The stratification test shall consist of three paired runs of a suitable SO₂ and CO₂ measurement train operated at the candidate location and a second similar train operated according to the procedures in Section 3.2 and the applicable procedures in Section 7 of Performance Specification 2. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B of appendix A of this part or Methods 6C or Method 320 of appendix A of part 63 of this chapter and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part, 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily SO₂ emission rate, ED, shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19 of appendix A of this part.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average SO₂ emission rates measured by the CEMS required by paragraph (a) of this section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average SO₂ emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.
(1) Except as provided for in paragraph (e)(4) of this section, all CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Except as provided for in paragraph (e)(4) of this section, quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the SO₂ CEMS at the inlet to the SO₂ control device is 125 percent of the maximum estimated hourly potential SO₂ emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO₂ control device is 50 percent of the maximum estimated hourly potential SO₂ emissions of the fuel combusted. Alternatively, SO₂ span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required CO₂ and O₂ monitors and for SO₂ and NOₓ monitors with span values greater than or equal to 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part.

(ii) For all required CO₂ and O₂ monitors and for SO₂ and NOₓ monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for SO₂ and NOₓ span values less than or equal to 30 ppm; and

(iii) For SO₂, CO₂, and O₂ monitoring systems and for NOₓ emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for SO₂ (regardless of the SO₂ emission level during the RATA), and for NOₓ when the average NOₓ emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under §60.49b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in §60.49b(r).


§60.48b  Emission monitoring for particulate matter and nitrogen oxides.

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under §60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), (5), or (6) of this section who elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate
compliance with the applicable limit in §60.43b by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

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

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

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

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

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

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

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.46d(d)(7).

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

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.
(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NOx standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NOx and O2 (or CO2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NOx emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

d) The 1-hour average NOx emission rates measured by the continuous NOx monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a COMS shall be between 60 and 80 percent.

2) For affected facilities combusting coal, oil, or natural gas, the span value for NOx is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NOx span values shall be determined as follows:

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Span values for NOx (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas</td>
<td>500.</td>
</tr>
<tr>
<td>Oil</td>
<td>500.</td>
</tr>
<tr>
<td>Coal</td>
<td>1,000.</td>
</tr>
<tr>
<td>Mixtures</td>
<td>500 (x + y) + 1,000z.</td>
</tr>
</tbody>
</table>

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the NOx span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.
(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When NOx emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less, and that has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, gasified coal, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section; or

(2) Monitor steam generating unit operating conditions and predict NOx emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, that is subject to the NOx standards in §60.44b(a)(4), §60.44b(e), or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NOx emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a CEMS for measuring NOx emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), (5), (6), or (7) of this section is not required to install or operate a COMS if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential SO2 emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO2 or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under §60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce SO2 or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section; or

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

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

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).
(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

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

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

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

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

(5) The affected facility uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most current requirements in section §60.48Da of this part; or

(6) The affected facility uses an ESP as the primary PM control device and uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the most current requirements in section §60.48Da of this part; or

(7) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.46b(j). The CEMS specified in paragraph §60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(l) An owner or operator of an affected facility that is subject to an opacity standard under §60.43b(f) is not required to operate a COMS provided that the unit burns only gaseous fuels and/or liquid fuels (excluding residue oil) with a potential SO₂ emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit operates according to a written site-specific monitoring plan approved by the permitting authority is not required to operate a COMS. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under §60.49b(h).

§60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

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

2. If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

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

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

(b) The owner or operator of each affected facility subject to the SO2, PM, and/or NOx emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the NOx standard in §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored in §60.48b(g)(2) and the records to be maintained in §60.49b(g). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. An affected facility burning coke oven gas alone or in combination with other gaseous fuels or distillate oil shall submit this plan to the Administrator for approval within 360 days of the initial startup of the affected facility or by November 30, 2009, whichever date comes later. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:

1. Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NOx emission rates (i.e., ng/J or lbs/MMBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas O2 level);

2. Include the data and information that the owner or operator used to identify the relationship between NOx emission rates and these operating conditions; and

3. Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(g).

(d) Except as provided in paragraph (d)(2) of this section, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section.

1. The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil,
natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(2) As an alternative to meeting the requirements of paragraph (d)(1) of this section, the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(e) For an affected facility that combests residual oil and meets the criteria under §§60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For an affected facility subject to the opacity standard in §60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in §60.46b(a) shall maintain records according to the requirements specified in paragraphs (f)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

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

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

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

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

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

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

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

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

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NOX standards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NOx emission rates (expressed as NO2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NOx emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;
(4) Identification of the steam generating unit operating days when the calculated 30-day average NO\textsubscript{X} emission rates are in excess of the NO\textsubscript{X} emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards in §60.43b(f) or to the operating parameter monitoring requirements in §60.13(i)(1).

(2) Any affected facility that is subject to the NO\textsubscript{X} standard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, gasified coal, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor NO\textsubscript{X} emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO\textsubscript{X} emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO\textsubscript{X} under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the SO\textsubscript{2} standards under §60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period;

(2) Each 30-day average SO\textsubscript{2} emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken; For an exceedance due to maintenance of the SO\textsubscript{2} control system covered in paragraph 60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;
(3) Each 30-day average percent reduction in SO₂ emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;

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

(6) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(7) Identification of times when hourly averages have been obtained based on manual sampling methods;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3;

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part;

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average SO₂ emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken;

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

(5) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(6) Identification of times when hourly averages have been obtained based on manual sampling methods;

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(8) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the
(m) For each affected facility subject to the SO2 standards in §60.42(b) for which the minimum amount of data required in §60.47b(c) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

1. The number of hourly averages available for outlet emission rates and inlet emission rates;
2. The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19 of appendix A of this part, section 7;
3. The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19 of appendix A of this part, section 7; and
4. The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., %Rf) is used to determine the overall percent reduction (i.e., %Ro) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report:

1. Indicating what removal efficiency by fuel pretreatment (i.e., %Rf) was credited during the reporting period;
2. Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period;
3. Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and
4. Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 of appendix A of this part and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in §60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

1. Calendar date;
2. The number of hours of operation; and
3. A record of the hourly steam load.

(q) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator a report containing:

1. The annual capacity factor over the previous 12 months;
2. The average fuel nitrogen content during the reporting period, if residual oil was fired; and
(3) If the affected facility meets the criteria described in §60.44b(j), the results of any NOX emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NOX emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in §60.42b or §60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in §60.42b(j) or §60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in §60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in §60.42b or §60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

(i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;

(ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;

(iii) The ratio of different fuels in the mixture; and

(iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.

(s) Facility specific NOX standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) Definitions.

Oxidation zone is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

Reducing zone is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

Total inlet air is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) Standard for nitrogen oxides. (i) When fossil fuel alone is combusted, the NOX emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NOX emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.
(3) **Emission monitoring.** (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The NOx emission limit shall be determined by the compliance and performance test methods and procedures for NOx in §60.46b(i).

(iii) The monitoring of the NOx emission limit shall be performed in accordance with §60.48b.

(4) **Reporting and recordkeeping requirements.** (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(f) **Facility-specific NOx standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:**

(1) **Definitions.**

*Air ratio control damper* is defined as the part of the low NOx burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

*Flue gas recirculation line* is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) **Standard for nitrogen oxides.** (i) When fossil fuel alone is combusted, the NOx emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NOx emission limit is 473 ng/J (1.1 lb/MMBtu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) **Emission monitoring for nitrogen oxides.** (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The NOx emission limit shall be determined by the compliance and performance test methods and procedures for NOx in §60.46b.

(iii) The monitoring of the NOx emission limit shall be performed in accordance with §60.48b.

(4) **Reporting and recordkeeping requirements.** (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.
(u) **Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.** (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”) and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low NOx technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NOx emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO2 and/or NOX and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) **Facility-specific NOx standard for Weyerhaeuser Company’s No. 2 Power Boiler located in New Bern, North Carolina:**

(1) **Standard for nitrogen oxides.** (i) When fossil fuel alone is combusted, the NOx emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NOx emission limit is 215 ng/J (0.5 lb/MBtu).

(2) **Emission monitoring for nitrogen oxides.** (i) The NOx emissions shall be determined by the compliance and performance test methods and procedures for NOx in §60.46b.

(ii) The monitoring of the NOx emissions shall be performed in accordance with §60.48b.

(3) **Reporting and recordkeeping requirements.** (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(y) **Facility-specific NOx standard for INEOS USA’s AOGI located in Lima, Ohio:**
(1) **Standard for NO\(_X\).** (i) When fossil fuel alone is combusted, the NO\(_X\) emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the NO\(_X\) emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) **Emission monitoring for NO\(_X\).** (i) The NO\(_X\) emissions shall be determined by the compliance and performance test methods and procedures for NO\(_X\) in §60.46b.

(ii) The monitoring of the NO\(_X\) emissions shall be performed in accordance with §60.48b.

(3) **Reporting and recordkeeping requirements.** (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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

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

§ 60.110b   Applicability and designation of affected facility.

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

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

(c) [Reserved]

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

1. Vessels at coke oven by-product plants.

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

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

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

5. Vessels located at bulk gasoline plants.

6. Storage vessels located at gasoline service stations.

7. Vessels used to store beverage alcohol.

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

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

(i) A storage vessel with a design capacity greater than or equal to 151 m$^3$ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m$^3$ but less than 151 m$^3$ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

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

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

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


§ 60.111b Definitions.

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

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

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

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

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

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

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

(2) As obtained from standard reference texts; or

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

(4) Any other method approved by the Administrator.

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

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

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

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

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

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

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

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

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


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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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


§ 60.113b Testing and procedures.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator
shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer’s design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator’s judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.
§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b(b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.
(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at
ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in § 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

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

(ii) ASTM D323-82 or 94 (incorporated by reference—see § 60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of § 60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.


§ 60.117b  Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(ii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).
[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]
§ 60.480 Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in § 60.481) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after January 5, 1981, and on or before November 7, 2006, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in § 60.486(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) of a chemical listed in § 60.489 is exempt from §§ 60.482-1 through 60.482-10.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§ 60.482-1 through 60.482-10.

(4) Any affected facility that produces beverage alcohol is exempt from §§ 60.482-1 through 60.482-10.

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§ 60.482-1 through 60.482-10.

(e) Alternative means of compliance — (1) Option to comply with part 65. (i) Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§ 60.482 through 60.487 for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of § 60.485(d), (e), and (f) and § 60.486(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

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

(2) Subpart VVa. Owners or operators may choose to comply with the provisions of subpart VVa of this part 60 to satisfy the requirements of this subpart VV for an affected facility.

(f) Stay of standards. Owners or operators are not required to comply with the definition of “process unit” in §60.481 and the requirements in §60.482-1(g) of this subpart until the EPA takes final action to require compliance and publishes a document in the FEDERAL REGISTER. While the definition of “process unit” is stayed, owners or operators should use the following definition:

Process unit means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in §60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

§60.481 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$A = Y \times \left( \frac{B}{100} \right)$;

(2) The percent Y is determined from the following equation: $Y = 1.0 - 0.575 \log X$, where X is 1982 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable Value for B

<table>
<thead>
<tr>
<th>Subpart applicable to facility</th>
<th>Value of B to be used in equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VV</td>
<td>12.5</td>
</tr>
<tr>
<td>DDD</td>
<td>12.5</td>
</tr>
<tr>
<td>GGG</td>
<td>7.0</td>
</tr>
<tr>
<td>KKK</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Closed-loop system means an enclosed system that returns process fluid to the process.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.
**Closed vent system** means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

**Connector** means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this subpart.

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

**Distance piece** means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

**Double block and bleed system** means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

**Duct work** means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

**Equipment** means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

**First attempt at repair** means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

**Fuel gas** means gases that are combusted to derive useful work or heat.

**Fuel gas system** means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

**Hard-piping** means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2300, Fairfield, NJ 07007-2300).

**In gas/vapor service** means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

**In heavy liquid service** means that the piece of equipment is not in gas/vapor service or in light liquid service.

**In light liquid service** means that the piece of equipment contains a liquid that meets the conditions specified in § 60.485(e).

**In-situ sampling systems** means nonextractive samplers or in-line samplers.

**In vacuum service** means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

**In VOC service** means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of § 60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

**Liquids dripping** means any visible leakage from the seal including spraying, misting, clouding, and ice formation.
Open-ended valve or line means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

Process improvement means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

Process unit means the components assembled and connected by pipes or ducts to process raw materials and to produce, as intermediate or final products, one or more of the chemicals listed in § 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in § 60.482-1(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:

1. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.

2. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

3. The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Quarter means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

Repaired means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as defined in the applicable sections of this subpart and, except for leaks identified in accordance with §§ 60.482-2(b)(2)(ii) and (d)(6)(ii) and (iii), 60.482-3(f), and 60.482-10(f)(1)(ii), is re-monitored as specified in § 60.485(b) to verify that emissions from the equipment are below the applicable leak definition.

Replacement cost means the capital needed to purchase all the depreciable components in a facility.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

Storage vessel means a tank or other vessel that is used to store organic liquids that are used in the process as raw material feedstocks, produced as intermediates or final products, or generated as wastes. Storage vessel does not include vessels permanently attached to motor vehicles, such as trucks, railcars, barges, or ships.

Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in § 60.489.
Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are used to fill tank trucks and/or railcars with organic liquids.

Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in § 60.2 Definitions.


EFFECTIVE DATE NOTE: At 73 FR 31375, June 2, 2008, in § 60.481, the definition of “process unit” was stayed until further notice.

§ 60.482-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§ 60.482-1 through 60.482-10 or § 60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§ 60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in § 60.485.

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

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§ 60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, or 60.482-10, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§ 60.482-2 to 60.482-10 if it is identified as required in § 60.486(e)(5).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hours (hr)/yr is excluded from the requirements of §§ 60.482-2 through 60.482-10 if it is identified as required in § 60.486(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

(2) The equipment is in VOC service only during process malfunctions or other emergencies.

(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

(f)(1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps and valves at the frequency specified in the following table instead of monitoring as specified in §§ 60.482-2, 60.482-7, and 60.483-2:

<table>
<thead>
<tr>
<th>Operating time (percent of hours during year)</th>
<th>Equivalent monitoring frequency time in use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly</td>
</tr>
<tr>
<td>0 to &lt;25</td>
<td>Quarterly</td>
</tr>
<tr>
<td>25 to &lt;50</td>
<td>Quarterly</td>
</tr>
<tr>
<td>50 to &lt;75</td>
<td>Bimonthly</td>
</tr>
<tr>
<td>75 to 100</td>
<td>Monthly</td>
</tr>
</tbody>
</table>
(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (i.e., once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to subpart VVa of this part, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to subpart VVa of this part, the storage vessel is assigned to any process unit subject to this subpart. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.


EFFECTIVE DATE NOTE: At 73 FR 31375, June 2, 2008, in § 60.482-1, paragraph (g) was stayed until further notice.

§ 60.482-2 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 60.485(b), except as provided in § 60.482-1(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in § 60.482-1(c) and (f) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in § 60.482-1(f).

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.

(i) Monitor the pump within 5 days as specified in § 60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. The leak shall be repaired using the procedures in paragraph (c) of this section.
(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak within 15 days of detection by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is—

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4)(i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section.

(A) Monitor the pump within 5 days as specified in § 60.485(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5)(i) Each sensor as described in paragraph (d)(3) of this section is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6)(i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.
(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in § 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of § 60.482-10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.


§ 60.482-3 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in § 60.482-1(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of § 60.482-10, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)-(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in § 60.485(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of § 60.14 or § 60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.


§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in § 60.485(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in § 60.482-9.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in § 60.485(c).
(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in § 60.482-10 is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 60.482-9.


§ 60.482-5 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in § 60.482-1(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of § 60.482-10.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(A) A waste management unit as defined in § 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of § 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of §§ 61.343 through 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.
(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.


§ 60.482-6 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 60.482-1(c) and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.


§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.

(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in § 60.485(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, § 60.482-1(c) and (f), and §§ 60.483-1 and 60.483-2.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, § 60.482-1(c), and §§ 60.483-1 and 60.483-2.

(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(ii) If the valves on the process unit are monitored in accordance with § 60.483-1 or § 60.483-2, count the new valve as leaking when calculating the percentage of valves leaking as described in § 60.483-2(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1)(i) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into 2 or 3 subgroups of valves and monitor each subgroup in a different month during the
quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the
valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the
leak is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 60.486(e)(2), for no detectable emissions, as indicated by an
instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the
valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in
§ 60.485(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times
requested by the Administrator.

(g) Any valve that is designated, as described in § 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the
requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring
personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as
practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 60.486(f)(2), as a difficult-to-monitor valve is exempt from the
requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the
monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either becomes an affected facility through § 60.14 or § 60.15 or
the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per
calendar year.

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§ 60.482-8  Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in § 60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §§ 60.482-2(c)(2) and 60.482-7(e).


§ 60.482-9  Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 60.482-10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
(f) When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.


§ 60.482-10 Standards: Closed vent systems and control devices.

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of § 60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual inspections according to the procedures in § 60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.
(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§ 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 60.486(c).

(4) For each inspection conducted in accordance with § 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.


§ 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:
(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in § 60.487(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 60.482-7(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in § 60.485(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in § 60.485(h).


§ 60.483-2 Alternative standards for valves—skip period leak detection and repair.

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in § 60.487(d).

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in § 60.482-7.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in § 60.482-7 but can again elect to use this section.

(5) The percent of valves leaking shall be determined as described in § 60.485(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with § 60.482-7(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.
§ 60.484  Equivalence of means of emission limitation.

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4).

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in the FEDERAL REGISTER and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the FEDERAL REGISTER.
(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.


§ 60.485 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§ 60.482-1 through 60.482-10, 60.483, and 60.484 as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in §§ 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see § 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:
(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

\[
V_{\text{max}} = K_1 + K_2 H_T
\]

Where:

\( V_{\text{max}} \) = Maximum permitted velocity, m/sec (ft/sec)

\( H_T \) = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

\( K_1 = 8.706 \text{ m/sec (metric units)} \)

= 28.56 ft/sec (English units)

\( K_2 = 0.7084 \text{ m}^4/(\text{MJ-sec}) \) (metric units)

= 0.087 ft⁴/(Btu-sec) (English units)

(4) The net heating value (\( H_T \)) of the gas being combusted in a flare shall be computed using the following equation:

\[
H_T = \frac{\sum C_i H_i}{K}
\]

Where:

\( K \) = Conversion constant, \( 1.740 \times 10^{-7} \text{ (g-mole)(MJ)/(ppm-scm-kcal)} \) (metric units) = \( 4.674 \times 10^{-6} \text{ [(g-mole)(Btu)/(ppm-scf-kcal)]} \) (English units)

\( C_i \) = Concentration of sample component “i,” ppm

\( H_i \) = Net heat of combustion of sample component “i” at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

(5) Method 18 or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 parts per million by
volume) and ASTM D2504-67, 77 or 88 (Reapproved 1993) (incorporated by reference—see § 60.17) shall be used to determine the concentration of sample component “i.”

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference—see § 60.17) shall be used to determine the net heat of combustion of component “i” if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with § 60.483-1 or § 60.483-2 as follows:

(1) The percent of valves leaking shall be determined using the following equation:

\[ \%V_L = (V_L / V_T) \times 100 \]

Where:

\( \%V_L \) = Percent leaking valves

\( V_L \) = Number of valves found leaking

\( V_T \) = The sum of the total number of valves monitored

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with § 60.482-7(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.


§ 60.486 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§ 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 60.482-7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§ 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) “Above 10,000” if the maximum instrument reading measured by the methods specified in § 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in § 60.482-10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in § 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§ 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§ 60.482-2, 60.482-3, 60.482-4, and 60.482-5.

(e) The following information pertaining to all equipment subject to the requirements in §§ 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§ 60.482-2(e), 60.482-3(i) and 60.482-7(f).
(ii) The designation of equipment as subject to the requirements of § 60.482-2(e), § 60.482-3(i), or § 60.482-7(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 60.482-4.

(4)(i) The dates of each compliance test as required in §§ 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with § 60.482-1(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(f) The following information pertaining to all valves subject to the requirements of § 60.482-7(g) and (h) and to all pumps subject to the requirements of § 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with § 60.483-2:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§ 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in § 60.480(d):

(1) An analysis demonstrating the design capacity of the affected facility,

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of § 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.
§ 60.487 Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of § 60.482-7, excluding those valves designated for no detectable emissions under the provisions of § 60.482-7(f).

(3) Number of pumps subject to the requirements of § 60.482-2, excluding those pumps designated for no detectable emissions under the provisions of § 60.482-2(e) and those pumps complying with § 60.482-2(f).

(4) Number of compressors subject to the requirements of § 60.482-3, excluding those compressors designated for no detectable emissions under the provisions of § 60.482-3(i) and those compressors complying with § 60.482-3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in § 60.486:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in § 60.482-7(b) or § 60.483-2,

(ii) Number of valves for which leaks were not repaired as required in § 60.482-7(d)(1),

(iii) Number of pumps for which leaks were detected as described in § 60.482-2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in § 60.482-2(c)(1) and (d)(6),

(v) Number of compressors for which leaks were detected as described in § 60.482-3(f),

(vi) Number of compressors for which leaks were not repaired as required in § 60.482-3(g)(1), and

(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§ 60.483-1 or 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with § 60.8 of the General Provisions. The provisions of § 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.
(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.


§ 60.488 Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under § 60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under § 60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in § 60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

[49 FR 22608, May 30, 1984]

§ 60.489 List of chemicals produced by affected facilities.

The following chemicals are produced, as intermediates or final products, by process units covered under this subpart. The applicability date for process units producing one or more of these chemicals is January 5, 1981.

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>105-57-7</td>
<td>Acetal.</td>
</tr>
<tr>
<td>75-07-0</td>
<td>Acetaldehyde.</td>
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<td>107-89-1</td>
<td>Acetaldol.</td>
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<td>60-35-5</td>
<td>Acetamide.</td>
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<td>103-84-4</td>
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<td>b-picoline.</td>
</tr>
<tr>
<td>110-85-0</td>
<td>Piperazine.</td>
</tr>
<tr>
<td>9003-29-6, 25036-29-7</td>
<td>Polybutenes.</td>
</tr>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol.</td>
</tr>
<tr>
<td>25322-69-4</td>
<td>Polypropylene glycol.</td>
</tr>
<tr>
<td>123-38-6</td>
<td>Propionaldehyde.</td>
</tr>
<tr>
<td>79-09-4</td>
<td>Propionic acid.</td>
</tr>
<tr>
<td>71-23-8</td>
<td>n-propyl alcohol.</td>
</tr>
<tr>
<td>107-10-8</td>
<td>Propylamine.</td>
</tr>
<tr>
<td>540-54-5</td>
<td>Propyl chloride.</td>
</tr>
<tr>
<td>115-07-1</td>
<td>Propylene.</td>
</tr>
<tr>
<td>127-00-4</td>
<td>Propylene chlorohydrin.</td>
</tr>
<tr>
<td>78-87-5</td>
<td>Propylene dichloride.</td>
</tr>
<tr>
<td>57-55-6</td>
<td>Propylene glycol.</td>
</tr>
<tr>
<td>75-56-9</td>
<td>Propylene oxide.</td>
</tr>
<tr>
<td>110-86-1</td>
<td>Pyridine.</td>
</tr>
<tr>
<td>106-51-4</td>
<td>Quinone.</td>
</tr>
<tr>
<td>108-46-3</td>
<td>Resorcinol.</td>
</tr>
<tr>
<td>27138-57-4</td>
<td>Resorcylic acid.</td>
</tr>
<tr>
<td>69-72-7</td>
<td>Salicylic acid.</td>
</tr>
<tr>
<td>127-09-3</td>
<td>Sodium acetate.</td>
</tr>
<tr>
<td>CAS No.</td>
<td>Chemical</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>532-32-1</td>
<td>Sodium benzoate.</td>
</tr>
<tr>
<td>9004-32-4</td>
<td>Sodium carboxymethyl cellulose.</td>
</tr>
<tr>
<td>3926-62-3</td>
<td>Sodium chloroacetate.</td>
</tr>
<tr>
<td>141-53-7</td>
<td>Sodium formate.</td>
</tr>
<tr>
<td>139-02-6</td>
<td>Sodium phenate.</td>
</tr>
<tr>
<td>110-44-1</td>
<td>Sorbic acid.</td>
</tr>
<tr>
<td>100-42-5</td>
<td>Styrene.</td>
</tr>
<tr>
<td>110-15-6</td>
<td>Succinic acid.</td>
</tr>
<tr>
<td>110-61-2</td>
<td>Succinonitrile.</td>
</tr>
<tr>
<td>121-57-3</td>
<td>Sulfanilic acid.</td>
</tr>
<tr>
<td>126-33-0</td>
<td>Sulfolane.</td>
</tr>
<tr>
<td>1401-55-4</td>
<td>Tannic acid.</td>
</tr>
<tr>
<td>100-21-0</td>
<td>Terephthalic acid.</td>
</tr>
<tr>
<td>79-34-5</td>
<td>Tetrachloroethanes.</td>
</tr>
<tr>
<td>117-08-8</td>
<td>Tetrachlorophthalic anhydride.</td>
</tr>
<tr>
<td>78-00-2</td>
<td>Tetraethyl lead.</td>
</tr>
<tr>
<td>119-64-2</td>
<td>Tetrahydronaphthalene.</td>
</tr>
<tr>
<td>85-43-8</td>
<td>Tetrahydrophthalic anhydride.</td>
</tr>
<tr>
<td>75-74-1</td>
<td>Tetramethyl lead.</td>
</tr>
<tr>
<td>110-60-1</td>
<td>Tetramethylenediamine.</td>
</tr>
<tr>
<td>110-18-9</td>
<td>Tetramethylenelethylenediamine.</td>
</tr>
<tr>
<td>108-88-3</td>
<td>Toluene.</td>
</tr>
<tr>
<td>95-80-7</td>
<td>Toluene-2,4-diamine.</td>
</tr>
<tr>
<td>584-84-9</td>
<td>Toluene-2,4-diisocyanate.</td>
</tr>
<tr>
<td>26471-62-5</td>
<td>Toluene diisocyanates (mixture).</td>
</tr>
<tr>
<td>1333-07-9</td>
<td>Toluensulfonamide.</td>
</tr>
<tr>
<td>104-15-4</td>
<td>Toluensulfonic acids.</td>
</tr>
<tr>
<td>98-59-9</td>
<td>Toluenesulfonyl chloride.</td>
</tr>
<tr>
<td>26915-12-8</td>
<td>Toluidines.</td>
</tr>
<tr>
<td>87-61-6, 108-70-3, 120-82-1</td>
<td>Trichlorobenzenes.</td>
</tr>
<tr>
<td>71-55-6</td>
<td>1,1,1-trichloroethane.</td>
</tr>
<tr>
<td>79-00-5</td>
<td>1,1,2-trichloroethane.</td>
</tr>
<tr>
<td>79-01-6</td>
<td>Trichloroethylene.</td>
</tr>
<tr>
<td>75-69-4</td>
<td>Trichlorofluoromethane.</td>
</tr>
<tr>
<td>96-18-4</td>
<td>1,2,3-trichloropropane.</td>
</tr>
<tr>
<td>76-13-1</td>
<td>1,1,2-trichloro-1,2,2-trifluoroethane.</td>
</tr>
<tr>
<td>121-44-8</td>
<td>Triethylamine.</td>
</tr>
<tr>
<td>112-27-6</td>
<td>Triethylene glycol.</td>
</tr>
<tr>
<td>112-49-2</td>
<td>Triethylene glycol dimethyl ether.</td>
</tr>
<tr>
<td>7756-94-7</td>
<td>Trisobutylene.</td>
</tr>
<tr>
<td>75-50-3</td>
<td>Trimethylamine.</td>
</tr>
<tr>
<td>57-13-6</td>
<td>Urea.</td>
</tr>
<tr>
<td>108-05-4</td>
<td>Vinyl acetate.</td>
</tr>
<tr>
<td>75-01-4</td>
<td>Vinyl chloride.</td>
</tr>
<tr>
<td>CAS No.</td>
<td>Chemical</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
</tr>
<tr>
<td>75-35-4</td>
<td>Vinylidene chloride.</td>
</tr>
<tr>
<td>25013-15-4</td>
<td>Vinyl toluene.</td>
</tr>
<tr>
<td>1330-20-7</td>
<td>Xylenes (mixed).</td>
</tr>
<tr>
<td>95-47-6</td>
<td>o-xylene.</td>
</tr>
<tr>
<td>106-42-3</td>
<td>p-xylene.</td>
</tr>
<tr>
<td>1300-71-6</td>
<td>Xylenol.</td>
</tr>
<tr>
<td>1300-73-8</td>
<td>Xyldine.</td>
</tr>
</tbody>
</table>

*a CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

*b No CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.

*c CAS numbers for some of the isomers are listed; the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

Attachment E

Part 70 Operating Permit Renewal No: T027-42694-00046

[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


SOURCE: 72 FR 64883, Nov. 16, 2007, unless otherwise noted.

§ 60.480a Applicability and designation of affected facility.

(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in § 60.481a) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after November 7, 2006, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in § 60.486a(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) of a chemical listed in § 60.489 is exempt from §§ 60.482-1a through 60.482-11a.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§ 60.482-1a through 60.482-11a.

(4) Any affected facility that produces beverage alcohol is exempt from §§ 60.482-1a through 60.482-11a.

(5) Any affected facility that has no equipment in volatile organic compounds (VOC) service is exempt from §§ 60.482-1a through 60.482-11a.

(e) Alternative means of compliance—(1) Option to comply with part 65. (i) Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§ 60.482-1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of §§ 60.485a(d), (e), and (f), and 60.486a(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

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

(2) Part 63, subpart H. (i) Owners or operators may choose to comply with the provisions of 40 CFR part 63, subpart H, to satisfy the requirements of §§ 60.482-1a through 60.487a for an affected facility. When choosing to comply with 40 CFR part 63, subpart H, the requirements of § 60.485a(d), (e), and (f), and § 60.486a(i) and (j) still apply.

(ii) Part 60, subpart A. Owners or operators who choose to comply with 40 CFR part 63, subpart H must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2)(ii) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 63, subpart H, except that provisions required to be met prior to implementing 40 CFR part 63 still apply. Owners and operators who choose to comply with 40 CFR part 63, subpart H, must comply with 40 CFR part 63, subpart A.

(f) Stay of standards. (1) Owners or operators that start a new, reconstructed, or modified affected source prior to November 16, 2007 are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of “capital expenditure” in § 60.481a of this subpart. While the definition of “capital expenditure” is stayed, owners or operators should use the definition found in § 60.481 of subpart VV of this part.

(ii) [Reserved]

(2) Owners or operators are not required to comply with the requirements in this paragraph until EPA takes final action to require compliance and publishes a document in the Federal Register.

(i) The definition of “process unit” in § 60.481a of this subpart. While the definition of “process unit” is stayed, owners or operators should use the following definition:

Process unit means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in § 60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(ii) The method of allocation of shared storage vessels in § 60.482-1a(g) of this subpart.

(iii) The standards for connectors in gas/vapor service and in light liquid service in § 60.482-11a of this subpart.

[72 FR 64883, Nov. 16, 2007, as amended at 73 FR 31375, June 2, 2008]

§ 60.481a Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA) or in subpart A of part 60, and the following terms shall have the specific meanings given them.

Capital expenditure means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: $P = R \times A$, where:

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$$A = Y \times \left(\frac{B}{100}\right);$$
(2) The percent Y is determined from the following equation: \( Y = 1.0 - 0.575 \log X \), where \( X \) is 2006 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

Table for Determining Applicable Value for B

<table>
<thead>
<tr>
<th>Subpart applicable to facility</th>
<th>Value of B to be used in equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VVa</td>
<td>12.5</td>
</tr>
<tr>
<td>GGGa</td>
<td>7.0</td>
</tr>
</tbody>
</table>

*Closed-loop system* means an enclosed system that returns process fluid to the process.

*Closed-purge system* means a system or combination of systems and portable containers to capture purged liquids. Containers for purged liquids must be covered or closed when not being filled or emptied.

*Closed vent system* means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment or that close an opening in a pipe that could be connected to another pipe. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation.

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

*Distance piece* means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

*First attempt at repair* means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07007-2300).
In gas/vapor service means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains a liquid that meets the conditions specified in § 60.485a(e).

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) (0.7 psia) below ambient pressure.

In VOC service means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of § 60.485a(d) specify how to determine that a piece of equipment is not in VOC service.)

Initial calibration value means the concentration measured during the initial calibration at the beginning of each day required in § 60.485a(b)(1), or the most recent calibration if the instrument is recalibrated during the day (i.e., the calibration is adjusted) after a calibration drift assessment.

Liquids dripping means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

Open-ended valve or line means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

Process improvement means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

Process unit means the components assembled and connected by pipes or ducts to process raw materials and to produce, as intermediate or final products, one or more of the chemicals listed in § 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product. For the purpose of this subpart, process unit includes any feed, intermediate and final product storage vessels (except as specified in § 60.482-1a(g)), product transfer racks, and connected ducts and piping. A process unit includes all equipment as defined in this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be accomplished. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours.

(2) An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.
Quarter means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

Repaired means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as defined in the applicable sections of this subpart and, except for leaks identified in accordance with §§ 60.482-2a(b)(2)(ii) and (d)(6)(ii) and (d)(6)(iii), 60.482-3a(f), and 60.482-10a(f)(1)(ii), is re-monitored as specified in § 60.485a(b) to verify that emissions from the equipment are below the applicable leak definition.

Replacement cost means the capital needed to purchase all the depreciable components in a facility.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Sensor means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

Storage vessel means a tank or other vessel that is used to store organic liquids that are used in the process as raw material feedstocks, produced as intermediates or final products, or generated as wastes. Storage vessel does not include vessels permanently attached to motor vehicles, such as trucks, railcars, barges or ships.

Synthetic organic chemicals manufacturing industry means the industry that produces, as intermediates or final products, one or more of the chemicals listed in § 60.489.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are used to fill tank trucks and/or railcars with organic liquids.

Volatile organic compounds or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in § 60.2 Definitions.

EFFECTIVE DATE NOTE: At 73 FR 31376, June 2, 2008, in § 60.481a, the definitions of “capital expenditure” and “process unit” were stayed until further notice.

§ 60.482-1a Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§ 60.482-1a through 60.482-10a or § 60.480a(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§ 60.482-1a to 60.482-10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in § 60.485a.

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

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§ 60.482-2a, 60.482-3a, 60.482-5a, 60.482-6a, 60.482-7a, 60.482-8a, or 60.482-10a, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§ 60.482-2a through 60.482-10a if it is identified as required in § 60.486a(e)(5).

(e) Equipment that an owner or operator designates as being in VOC service less than 300 hr/yr is excluded from the requirements of §§ 60.482-2a through 60.482-11a if it is identified as required in § 60.486a(e)(6) and it meets any of the conditions specified in paragraphs (e)(1) through (3) of this section.
(1) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

(2) The equipment is in VOC service only during process malfunctions or other emergencies.

(3) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

(f)(1) If a dedicated batch process unit operates less than 365 days during a year, an owner or operator may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in §§ 60.482-2a, 60.482-7a, and 60.483.2a:

<table>
<thead>
<tr>
<th>Operating time (percent of hours during year)</th>
<th>Equivalent monitoring frequency time in use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly</td>
</tr>
<tr>
<td>0 to &lt;25</td>
<td>Quarterly</td>
</tr>
<tr>
<td>25 to &lt;50</td>
<td>Quarterly</td>
</tr>
<tr>
<td>50 to &lt;75</td>
<td>Bimonthly</td>
</tr>
<tr>
<td>75 to 100</td>
<td>Monthly</td>
</tr>
</tbody>
</table>

(2) Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in paragraph (f)(1) of this section, provided the operating time of all such process units is considered.

(3) The monitoring frequencies specified in paragraph (f)(1) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in paragraphs (f)(3)(i) through (iv) of this section.

(i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(ii) When monitoring is conducted semiannually (i.e., once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

(g) If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to this subpart, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to this subpart of this part, the storage vessel is assigned to any process unit subject to subpart VV of this part. If the predominant use of the storage vessel varies from year to year, then the owner or operator must estimate the predominant use initially and reassess every 3 years. The owner or operator must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.

EFFECTIVE DATE NOTE: At 73 FR 31376, June 2, 2008, in § 60.482-1a, paragraph (g) was stayed until further notice.

§ 60.482-2a Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 60.485a(b), except as provided in § 60.482-1a(c) and (f) and paragraphs (d), (e), and (f) of this section. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first
(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in § 60.482-1a(f).

(b)(1) The instrument reading that defines a leak is specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) 5,000 parts per million (ppm) or greater for pumps handling polymerizing monomers;

(ii) 2,000 ppm or greater for all other pumps.

(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this section. This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable.

(i) Monitor the pump within 5 days as specified in § 60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in paragraph (b)(1)(i) or (ii) of this section, whichever is applicable. The leak shall be repaired using the procedures in paragraph (c) of this section.

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in paragraph (c) of this section or by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this section, where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (6) of this section are met.

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10a; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
(4)(i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this section prior to the next required inspection.

(A) Monitor the pump within 5 days as specified in § 60.485a(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 2,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this section, a leak is detected.

(6)(i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this section, it shall be repaired as specified in paragraph (c) of this section.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this section shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this section shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in § 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing;

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 60.485a(c); and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of § 60.482-10a, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.
(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

§ 60.482-3a Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in § 60.482-1a(c) and paragraphs (h), (i), and (j) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10a; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of § 60.482-10a, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in § 60.485a(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of § 60.14 or § 60.15 is exempt from paragraphs (a) through (e) and (h) of this section, provided the owner or operator
demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

§ 60.482-4a Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in § 60.485a(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in § 60.482-9a.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in § 60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in § 60.482-10a is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 60.482-9a.

§ 60.482-5a Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in § 60.482-1a(c) and paragraph (c) of this section.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this section.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of § 60.482-10a.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:
(A) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 CFR 61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 CFR 61.343 through 40 CFR 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 60.482-6a Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 60.482-1a(c) and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b), and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§ 60.482-7a Standards: Valves in gas/vapor service and in light liquid service.

(a)(1) Each valve shall be monitored monthly to detect leaks by the methods specified in § 60.485a(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, § 60.482-1a(c) and (f), and §§ 60.483-1a and 60.483-2a.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this section, § 60.482-1a(c), and §§ 60.483-1a and 60.483-2a.

(i) Monitor the valve as in paragraph (a)(1) of this section. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.
(ii) If the existing valves in the process unit are monitored in accordance with § 60.483-1a or § 60.483-2a, count the new valve as leaking when calculating the percentage of valves leaking as described in § 60.483-2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

(b) If an instrument reading of 500 ppm or greater is measured, a leak is detected.

(c)(1)(i) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 60.482-9a.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 60.485a(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in § 60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section, and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
(h) Any valve that is designated, as described in § 60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either:

(i) Becomes an affected facility through § 60.14 or § 60.15 and was constructed on or before January 5, 1981; or

(ii) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the owner or operator.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 60.482-8a Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in § 60.485a(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9a.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §§ 60.482-2a(c)(2) and 60.482-7a(e).

§ 60.482-9a Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves and connectors will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 60.482-10a.
(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(f) When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

§ 60.482-10a Standards: Closed vent systems and control devices.

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of § 60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (ii) of this section:

(i) Conduct an initial inspection according to the procedures in § 60.485a(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in § 60.485a(b); and

(ii) Conduct annual inspections according to the procedures in § 60.485a(b).

(g) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§ 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 60.486a(c).

(4) For each inspection conducted in accordance with § 60.485a(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.
§ 60.482-11a Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) Except as allowed in § 60.482-1a(c), § 60.482-10a, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

1. The connectors shall be monitored to detect leaks by the method specified in § 60.485a(b) and, as applicable, § 60.485a(c).

2. If an instrument reading greater than or equal to 500 ppm is measured, a leak is detected.

3. The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

   (i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

   (ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.

   (iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

      (A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

      (B) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent of leaking connectors within the total monitored connectors.

      (C) If the percent of leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

   (iv) If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

   (v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using the following equation:
\[ \%C_L = \frac{C_L}{C_t} \times 100 \]

Where:

\[ \%C_L \] = Percent of leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (iii) of this section.

\[ C_L \] = Number of connectors measured at 500 ppm or greater, by the method specified in § 60.485a(b).

\[ C_t \] = Total number of monitored connectors in the process unit or affected facility.

(d) When a leak is detected pursuant to paragraphs (a) and (b) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9a. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected.

(e) Any connector that is designated, as described in § 60.486a(f)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section if:

1. The owner or operator of the connector demonstrates that the connector is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) and (b) of this section; and

2. The owner or operator of the connector has a written plan that requires monitoring of the connector as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (d) of this section if a leak is detected.

(f) **Inaccessible, ceramic, or ceramic-lined connectors**. (1) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of §§ 63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (f)(1)(i) through (vi) of this section, as applicable:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

(g) Except for instrumentation systems and inaccessible, ceramic, or ceramic-lined connectors meeting the provisions of paragraph (f) of this section, identify the connectors subject to the requirements of this subpart. Connectors need
not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated.

**EFFECTIVE DATE NOTE:** At 73 FR 31376, June 2, 2008, § 60.482-11a was stayed until further notice.

§ 60.483-1a Alternative standards for valves—allowable percentage of valves leaking.

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

1. An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in § 60.487a(d).

2. A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

3. If a valve leak is detected, it shall be repaired in accordance with § 60.482-7a(d) and (e).

(c) Performance tests shall be conducted in the following manner:

1. All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in § 60.485a(b).

2. If an instrument reading of 500 ppm or greater is measured, a leak is detected.

3. The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in § 60.485a(h).

§ 60.483-2a Alternative standards for valves—skip period leak detection and repair.

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(b)(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in § 60.487(d)a.

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in § 60.482-7a.

2. After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

3. After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

4. If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in § 60.482-7a but can again elect to use this section.
(5) The percent of valves leaking shall be determined as described in § 60.485a(h).

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(7) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with § 60.482-7a(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve.

§ 60.484a Equivalence of means of emission limitation.

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in the FEDERAL REGISTER and provide the opportunity for public hearing if the Administrator judges that the request may be approved.
(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the CAA.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

§ 60.485a Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§ 60.482-1a through 60.482-11a, 60.483a, and 60.484a as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21 of appendix A-7 of this part. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration no more than 2,000 ppm greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppm above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppm. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(2) A calibration drift assessment shall be performed, at a minimum, at the end of each monitoring day. Check the instrument using the same calibration gas(es) that were used to calibrate the instrument before use. Follow the procedures specified in Method 21 of appendix A-7 of this part, Section 10.1, except do not adjust the meter readout to correspond to the calibration gas value. Record the instrument reading for each scale used as specified in § 60.486a(e)(7). Calculate the average algebraic difference between the three meter readings and the most recent calibration value. Divide this algebraic difference by the initial calibration value and multiply by 100 to express the calibration drift as a percentage. If any calibration drift assessment shows a negative drift of more than 10 percent from the initial calibration value, then all equipment monitored since the last calibration with instrument readings below the appropriate leak definition and above the leak definition multiplied by (100 minus the percent of negative drift/divided by 100) must be re-monitored. If any calibration drift assessment shows a positive drift of more than 10 percent from the initial calibration value, then, at the owner/operator's discretion, all equipment since the last calibration with instrument readings above the appropriate leak definition and below the leak definition multiplied by (100 plus the percent of positive drift/divided by 100) may be re-monitored.

(c) The owner or operator shall determine compliance with the no-detectable-emission standards in §§ 60.482-2a(e), 60.482-3a(i), 60.482-4a, 60.482-7a(f), and 60.482-10a(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 of appendix A-7 of this part shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.
(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see § 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 of appendix A-7 of this part shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

\[ V_{\text{max}} = K_1 + K_2 H_T \]

Where:

\[ V_{\text{max}} = \text{Maximum permitted velocity, m/sec (ft/sec).} \]

\[ H_T = \text{Net heating value of the gas being combusted, MJ/scm (Btu/scf).} \]

\[ K_1 = 8.706 \text{ m/sec (metric units) = 28.56 ft/sec (English units).} \]

\[ K_2 = 0.7084 \text{ m}^4/(\text{MJ-sec}) \text{ (metric units) = 0.087 ft}^4/(\text{Btu-sec}) \text{ (English units).} \]

(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

\[ H_T = \sum_{i=1}^{n} C_i H_i \]
Where:

\[ K = \text{Conversion constant, } 1.740 \times 10^{-7} \text{ (g-mole)(MJ)/(ppm-scm-kcal) (metric units)} = 4.674 \times 10^{-6} \frac{[\text{(g-mole)(Btu)/(ppm-scf-kcal})]}{(\text{English units})}. \]

\[ C_i = \text{Concentration of sample component } "i", \text{ ppm} \]

\[ H_i = \text{net heat of combustion of sample component } "i" \text{ at } 25 \text{ °C and } 760 \text{ mm Hg (77 °F and 14.7 psi), kcal/g-mole.} \]

(5) Method 18 of appendix A-6 of this part or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 ppmv) and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference see § 60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference see § 60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D of appendix A-7 of this part, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with § 60.483-1a or § 60.483-2a as follows:

(1) The percent of valves leaking shall be determined using the following equation:

\[ \%V_L = \left( \frac{V_L}{V_T} \right) \times 100 \]

Where:

\[ \%V_L = \text{Percent leaking valves.} \]

\[ V_L = \text{Number of valves found leaking.} \]

\[ V_T = \text{The sum of the total number of valves monitored.} \]

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

(3) The number of valves leaking shall include valves for which repair has been delayed.

(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

(5) If the process unit has been subdivided in accordance with § 60.482-7a(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.

(6) The total number of valves monitored does not include a valve monitored to verify repair.

§ 60.486a Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.
(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) The owner or operator shall record the information specified in paragraphs (a)(3)(i) through (v) of this section for each monitoring event required by §§ 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a.

(i) Monitoring instrument identification.

(ii) Operator identification.

(iii) Equipment identification.

(iv) Date of monitoring.

(v) Instrument reading.

(b) When each leak is detected as specified in §§ 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 60.482-7a(c) and no leak has been detected during those 2 months.

(3) The identification on a connector may be removed after it has been monitored as specified in § 60.482-11a(b)(3)(iv) and no leak has been detected during that monitoring.

(4) The identification on equipment, except on a valve or connector, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§ 60.482-2a, 60.482-3a, 60.482-7a, 60.482-8a, 60.482-11a, and 60.483-2a, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) Maximum instrument reading measured by Method 21 of appendix A-7 of this part at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.
(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in § 60.482-10a shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in § 60.482-10a(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§ 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§ 60.482-2a, 60.482-3a, 60.482-4a, and 60.482-5a.

(e) The following information pertaining to all equipment subject to the requirements in §§ 60.482-1a to 60.482-11a shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§ 60.482-2a(e), 60.482-3a(i), and 60.482-7a(f).

(ii) The designation of equipment as subject to the requirements of § 60.482-2a(e), § 60.482-3a(i), or § 60.482-7a(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 60.482-4a.

(4)(i) The dates of each compliance test as required in §§ 60.482-2a(e), 60.482-3a(i), 60.482-4a, and 60.482-7a(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with § 60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(7) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service.

(8) Records of the information specified in paragraphs (e)(8)(i) through (vi) of this section for monitoring instrument calibrations conducted according to sections 8.1.2 and 10 of Method 21 of appendix A-7 of this part and § 60.485a(b).

(i) Date of calibration and initials of operator performing the calibration.

(ii) Calibration gas cylinder identification, certification date, and certified concentration.
(iii) Instrument scale(s) used.

(iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with section 10.1 of Method 21 of appendix A-7 of this part.

(v) Results of each calibration drift assessment required by § 60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value).

(vi) If an owner or operator makes their own calibration gas, a description of the procedure used.

(9) The connector monitoring schedule for each process unit as specified in § 60.482-11a(b)(3)(v).

(10) Records of each release from a pressure relief device subject to § 60.482-4a.

(f) The following information pertaining to all valves subject to the requirements of § 60.482-7a(g) and (h), all pumps subject to the requirements of § 60.482-2a(g), and all connectors subject to the requirements of § 60.482-11a(e) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves, pumps, and connectors that are designated as unsafe-to-monitor, an explanation for each valve, pump, or connector stating why the valve, pump, or connector is unsafe-to-monitor, and the plan for monitoring each valve, pump, or connector.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with § 60.483-2a:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§ 60.482-2a(d)(5) and 60.482-3a(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in § 60.480a(d):

(1) An analysis demonstrating the design capacity of the affected facility,

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of § 60.7(b) and (d) do not apply to affected facilities subject to this subpart.
§ 60.487a Reporting requirements.

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning 6 months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of § 60.482-7a, excluding those valves designated for no detectable emissions under the provisions of § 60.482-7a(f).

(3) Number of pumps subject to the requirements of § 60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of § 60.482-2a(e) and those pumps complying with § 60.482-2a(f).

(4) Number of compressors subject to the requirements of § 60.482-3a, excluding those compressors designated for no detectable emissions under the provisions of § 60.482-3a(i) and those compressors complying with § 60.482-3a(h).

(5) Number of connectors subject to the requirements of § 60.482-11a.

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in § 60.486a:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in § 60.482-7a(b) or § 60.483-2a,

(ii) Number of valves for which leaks were not repaired as required in § 60.482-7a(d)(1),

(iii) Number of pumps for which leaks were detected as described in § 60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(iv) Number of pumps for which leaks were not repaired as required in § 60.482-2a(c)(1) and (d)(6),

(v) Number of compressors for which leaks were detected as described in § 60.482-3a(f),

(vi) Number of compressors for which leaks were not repaired as required in § 60.482-3a(g)(1),

(vii) Number of connectors for which leaks were detected as described in § 60.482-11a(b)

(viii) Number of connectors for which leaks were not repaired as required in § 60.482-11a(d), and

(ix)-(x) [Reserved]

(x) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.
(d) An owner or operator electing to comply with the provisions of §§ 60.483-1a or 60.483-2a shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with § 60.8 of the General Provisions. The provisions of § 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the state.

§ 60.488a Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable new facility” under § 60.15: Pump seals, nuts and bolts, rupture disks, and packings.

(b) Under § 60.15, the “fixed capital cost of new components” includes the fixed capital cost of all depreciable components (except components specified in § 60.488a(a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the “Applicability and designation of affected facility” section of the appropriate subpart.) For purposes of this paragraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.489a List of chemicals produced by affected facilities.

Process units that produce, as intermediates or final products, chemicals listed in § 60.489 are covered under this subpart. The applicability date for process units producing one or more of these chemicals is November 8, 2006.
What This Subpart Covers

§ 63.2430 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits, operating limits, and work practice standards.

§ 63.2435 Am I subject to the requirements in this subpart?

(a) You are subject to the requirements in this subpart if you own or operate miscellaneous organic chemical manufacturing process units (MCPU) that are located at, or are part of, a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA).

(b) An MCPU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process, as defined in § 63.2550, that satisfies all of the conditions specified in paragraphs (b)(1) through (3) of this section. An MCPU also includes any assigned storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used to manufacture any material or family of materials described in paragraphs (b)(1)(i) through (v) of this section.

1) The MCPU produces material or family of materials that is described in paragraph (b)(1)(i), (ii), (iii), (iv), or (v) of this section.

(i) An organic chemical(s) classified using the 1987 version of SIC code 282, 283, 284, 285, 286, 287, 289, or 386, except as provided in paragraph (c)(5) of this section.

(ii) An organic chemical(s) classified using the 1997 version of NAICS code 325, except as provided in paragraph (c)(5) of this section.

(iii) Quaternary ammonium compounds and ammonium sulfate produced with caprolactam.

(iv) Hydrazine.

(v) Organic solvents classified in any of the SIC or NAICS codes listed in paragraph (b)(1)(i) or (ii) of this section that are recovered using nondedicated solvent recovery operations.
(2) The MCPU processes, uses, or generates any of the organic HAP listed in section 112(b) of the CAA or hydrogen halide and halogen HAP, as defined in § 63.2550.

(3) The MCPU is not an affected source or part of an affected source under another subpart of this part 63, except for process vents from batch operations within a chemical manufacturing process unit (CMPU), as identified in § 63.100(j)(4). For this situation, the MCPU is the same as the CMPU as defined in § 63.100, and you are subject only to the requirements for batch process vents in this subpart.

(c) The requirements in this subpart do not apply to the operations specified in paragraphs (c)(1) through (7) of this section.

(1) Research and development facilities, as defined in section 112(c)(7) of the CAA.

(2) The manufacture of ammonium sulfate as a by-product, if the slurry entering the by-product manufacturing process contains 50 parts per million by weight (ppmw) HAP or less or 10 ppmw benzene or less. You must retain information, data, and analysis to document the HAP concentration in the entering slurry in order to claim this exemption.

(3) The affiliated operations located at an affected source under subparts GG (National Emission Standards for Aerospace Manufacturing and Rework Facilities), JJJJ (National Emission Standards for the Printing and Publishing Industry), and SSSS (NESHAP: Surface Coating of Metal Coils) of this part 63. Affiliated operations include, but are not limited to, mixing or dissolving of coating ingredients; coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of coating lines and coating line parts; handling and storage of coatings and solvent; and conveyance and treatment of wastewater.

(4) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occur for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is not exempt if it involves processing with HAP solvent or if an intended purpose of the operation is to remove residual HAP monomer.

(5) Production activities described using the 1997 version of NAICS codes 325131, 325181, 325188 (except the requirements do apply to hydrazine), 325314, 325991 (except the requirements do apply to reformulating plastics resins from recycled plastics products), and 325992 (except the requirements do apply to photographic chemicals).

(6) Tall oil recovery systems.

(7) Carbon monoxide production.

(d) If the predominant use of a transfer rack loading arm or storage tank (including storage tanks in series) is associated with a miscellaneous organic chemical manufacturing process, and the loading arm or storage tank is not part of an affected source under a subpart of this part 63, then you must assign the loading arm or storage tank to the MCPU for that miscellaneous organic chemical manufacturing process. If the predominant use cannot be determined, then you may assign the loading arm or storage tank to any MCPU that shares it and is subject to this subpart. If the use varies from year to year, then you must base the determination on the utilization that occurred during the year preceding November 10, 2003 or, if the loading arm or storage tank was not in operation during that year, you must base the use on the expected use for the first 5-year period after startup. You must include the determination in the notification of compliance status report specified in § 63.2520(d). You must redetermine the primary use at least once every 5 years, or any time you implement emissions averaging or pollution prevention after the compliance date.

(e) For nondedicated equipment used to create at least one MCPU, you may elect to develop process unit groups (PUG), determine the primary product of each PUG, and comply with the requirements of the subpart in 40 CFR part 63 that applies to that primary product as specified in § 63.2535(l).

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40331, July 14, 2006]
§ 63.2440  What parts of my plant does this subpart cover?

(a) This subpart applies to each miscellaneous organic chemical manufacturing affected source.

(b) The miscellaneous organic chemical manufacturing affected source is the facilitywide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in § 63.2435(b)(1).

(c) A new affected source is described by either paragraph (c)(1) or (2) of this section.

(1) Each affected source defined in paragraph (b) of this section for which you commenced construction or reconstruction after April 4, 2002, and you meet the applicability criteria at the time you commenced construction or reconstruction.

(2) Each dedicated MCPU that has the potential to emit 10 tons per year (tpy) of any one HAP or 25 tpy of combined HAP, and you commenced construction or reconstruction of the MCPU after April 4, 2002. For the purposes of this paragraph, an MCPU is an affected source in the definition of the term “reconstruction” in § 63.2.

(d) An MCPU that is also a CMPU under § 63.100 is reconstructed for the purposes of this subpart if, and only if, the CMPU meets the requirements for reconstruction in § 63.100(l)(2).

Compliance Dates

§ 63.2445  When do I have to comply with this subpart?

(a) If you have a new affected source, you must comply with this subpart according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you startup your new affected source before November 10, 2003, then you must comply with the requirements for new sources in this subpart no later than November 10, 2003.

(2) If you startup your new affected source after November 10, 2003, then you must comply with the requirements for new sources in this subpart upon startup of your affected source.

(b) If you have an existing source on November 10, 2003, you must comply with the requirements for existing sources in this subpart no later than May 10, 2008.

(c) You must meet the notification requirements in § 63.2515 according to the dates specified in that section and in subpart A of this part 63. Some of the notifications must be submitted before you are required to comply with the emission limits, operating limits, and work practice standards in this subpart.

(d) If you have a Group 2 emission point that becomes a Group 1 emission point after the compliance date for your affected source, you must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

(e) If, after the compliance date for your affected source, hydrogen halide and halogen HAP emissions from process vents in a process increase to more than 1,000 lb/yr, or HAP metals emissions from a process at a new affected source increase to more than 150 lb/yr, you must comply with the applicable emission limits specified in Table 3 to this subpart and the associated compliance requirements beginning on the date the emissions exceed the applicable threshold. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

(f) If you have a small control device for process vent or transfer rack emissions that becomes a large control device, as defined in § 63.2550(i), you must comply with monitoring and associated recordkeeping and reporting requirements for large control devices beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.
Emission Limits, Work Practice Standards, and Compliance Requirements

§ 63.2450 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits and work practice standards in tables 1 through 7 to this subpart at all times, except during periods of startup, shutdown, and malfunction (SSM), and you must meet the requirements specified in §§ 63.2455 through 63.2490 (or the alternative means of compliance in § 63.2495, § 63.2500, or § 63.2505), except as specified in paragraphs (b) through (s) of this section. You must meet the notification, reporting, and recordkeeping requirements specified in §§ 63.2515, 63.2520, and 63.2525.

(b) Determine halogenated vent streams. You must determine if an emission stream is a halogenated vent stream, as defined in § 63.2550, by calculating the mass emission rate of halogen atoms in accordance with § 63.115(d)(2)(v). Alternatively, you may elect to designate the emission stream as halogenated.

(c) Requirements for combined emission streams. When organic HAP emissions from different emission types (e.g., continuous process vents, batch process vents, storage tanks, transfer operations, and waste management units) are combined, you must comply with the requirements of either paragraph (c)(1) or (2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of organic HAP emissions in the stream (e.g., the requirements of table 1 to this subpart for continuous process vents and the requirements of table 4 to this subpart for emissions from storage tanks).

(2) Determine the applicable requirements based on the hierarchy presented in paragraphs (c)(2)(i) through (vi) of this section. For a combined stream, the applicable requirements are specified in the highest-listed paragraph in the hierarchy that applies to any of the individual streams that make up the combined stream. For example, if a combined stream consists of emissions from Group 1 batch process vents and any other type of emission stream, then you must comply with the requirements in paragraph (c)(2)(i) of this section for the combined stream; compliance with the requirements in paragraph (c)(2)(i) of this section constitutes compliance for the other emission streams in the combined stream. Two exceptions are that you must comply with the requirements in table 3 to this subpart and § 63.2465 for all process vents with hydrogen halide and halogen HAP emissions, and recordkeeping requirements for Group 2 applicability or compliance are still required (e.g., the requirement in § 63.2525(f) to track the number of batches produced and calculate rolling annual emissions for processes with Group 2 batch process vents).

(i) The requirements of table 2 to this subpart and § 63.2460 for Group 1 batch process vents, including applicable monitoring, recordkeeping, and reporting.

(ii) The requirements of table 1 to this subpart and § 63.2455 for continuous process vents that are routed to a control device, as defined in § 63.981, including applicable monitoring, recordkeeping, and reporting.

(iii) The requirements of table 5 to this subpart and § 63.2475 for transfer operations, including applicable monitoring, recordkeeping, and reporting.

(iv) The requirements of table 7 to this subpart and § 63.2485 for emissions from waste management units that are used to manage and treat Group 1 wastewater streams and residuals from Group 1 wastewater streams, including applicable monitoring, recordkeeping, and reporting.

(v) The requirements of table 4 to this subpart and § 63.2470 for control of emissions from storage tanks, including applicable monitoring, recordkeeping, and reporting.

(vi) The requirements of table 1 to this subpart and § 63.2455 for continuous process vents after a recovery device including applicable monitoring, recordkeeping, and reporting.

(d) [Reserved]
(e) **Requirements for control devices.** (1) Except when complying with § 63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to any combination of control devices (except a flare) or recovery devices, you must meet the requirements of § 63.982(c) and the requirements referenced therein.

(2) Except when complying with § 63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to a flare, you must meet the requirements of § 63.982(b) and the requirements referenced therein.

(3) If you use a halogen reduction device to reduce hydrogen halide and halogen HAP emissions from halogenated vent streams, you must meet the requirements of § 63.994 and the requirements referenced therein. If you use a halogen reduction device before a combustion device, you must determine the halogen atom emission rate prior to the combustion device according to the procedures in § 63.115(d)(2)(v).

(f) **Requirements for flare compliance assessments.** (1) As part of a flare compliance assessment required in § 63.987(b), you have the option of demonstrating compliance with the requirements of § 63.11(b) by complying with the requirements in either § 63.11(b)(6)(i) or § 63.987(b)(3)(ii).

(2) If you elect to meet the requirements in § 63.11(b)(6)(i), you must keep flare compliance assessment records as specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) Keep records as specified in § 63.998(a)(1)(i), except that a record of the heat content determination is not required.

(ii) Keep records of the flare diameter, hydrogen content, exit velocity, and maximum permitted velocity. Include these records in the flare compliance report required in § 63.999(a)(2).

(g) **Requirements for performance tests.** The requirements specified in paragraphs (g)(1) through (5) of this section apply instead of or in addition to the requirements specified in subpart SS of this part 63.

(1) Conduct gas molecular weight analysis using Method 3, 3A, or 3B in appendix A to part 60 of this chapter.

(2) Measure moisture content of the stack gas using Method 4 in appendix A to part 60 of this chapter.

(3) If the uncontrolled or inlet gas stream to the control device contains carbon disulfide, you must conduct emissions testing according to paragraph (g)(3)(i) or (ii) of this section.

(i) If you elect to comply with the percent reduction emission limits in tables 1 through 7 to this subpart, and carbon disulfide is the principal organic HAP component (i.e., greater than 50 percent of the HAP in the stream by volume), then you must use Method 18, or Method 15 (40 CFR part 60, appendix A) to measure carbon disulfide at the inlet and outlet of the control device. Use the percent reduction in carbon disulfide as a surrogate for the percent reduction in total organic HAP emissions.

(ii) If you elect to comply with the outlet total organic compound (TOC) concentration emission limits in tables 1 through 7 to this subpart, and carbon disulfide is the principal organic HAP component (i.e., greater than 10 percent (volume concentration) carbon disulfide, you must use Method 18 or Method 15 to separately determine the carbon disulfide concentration. Calculate the total HAP or TOC emissions by totaling the carbon disulfide emissions measured using Method 18 or 15 and the other HAP emissions measured using Method 18 or 25A.

(4) As an alternative to using Method 18, Method 25/25A, or Method 26/26A of 40 CFR part 60, appendix A, to comply with any of the emission limits specified in tables 1 through 7 to this subpart, you may use Method 320 of 40 CFR part 60, appendix A. When using Method 320, you must follow the analyte spiking procedures of section 13 of Method 320, unless you demonstrate that the complete spiking procedure has been conducted at a similar source.

(5) Section 63.997(c)(1) does not apply. For the purposes of this subpart, results of all initial compliance demonstrations must be included in the notification of compliance status report, which is due 150 days after the compliance date, as specified in § 63.2520(d)(1).
(h) **Design evaluation.** To determine the percent reduction of a small control device that is used to comply with an emission limit specified in table 1, 2, 3, or 5 to this subpart, you may elect to conduct a design evaluation as specified in § 63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For transfer racks, the design evaluation must demonstrate that the control device achieves the required control efficiency during the reasonably expected maximum transfer loading rate.

(i) **Outlet concentration correction for combustion devices.** When § 63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (i)(1) or (2) of this section apply for the purposes of this subpart.

1. You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in § 63.2550, to the vent stream, or;

2. You must correct the measured concentration for supplemental gases using Equation 1 of § 63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(j) **Continuous emissions monitoring systems.** Each continuous emissions monitoring system (CEMS) must be installed, operated, and maintained according to the requirements in § 63.8 and paragraphs (j)(1) through (5) of this section.

1. Each CEMS must be installed, operated, and maintained according to the applicable Performance Specification of 40 CFR part 60, appendix B, and according to paragraph (j)(2) of this section, except as specified in paragraph (j)(1)(i) of this section. For any CEMS meeting Performance Specification 8, you must also comply with appendix F, procedure 1 of 40 CFR part 60.

2. You must determine the calibration gases and reporting units for TOC CEMS in accordance with paragraph (j)(2)(i), (ii), or (iii) of this section.

(i) For CEMS meeting Performance Specification 9 or 15 requirements, determine the target analyte(s) for calibration using either process knowledge of the control device inlet stream or the screening procedures of Method 18 on the control device inlet stream.

(ii) For CEMS meeting Performance Specification 8 used to monitor performance of a combustion device, calibrate the instrument on the predominant organic HAP and report the results as carbon (C1), and use Method 25A or any approved alternative as the reference method for the relative accuracy tests.

(iii) For CEMS meeting Performance Specification 8 used to monitor performance of a noncombustion device, determine the predominant organic HAP using either process knowledge or the screening procedures of Method 18 on the control device inlet stream, calibrate the monitor on the predominant organic HAP, and report the results as C1. Use Method 18, ASTM D6420-99, or any approved alternative as the reference method for the relative accuracy tests, and report the results as C1.

3. You must conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable Performance Specification of 40 CFR part 60, appendix B, except that the schedule in § 63.8(e)(4) does not apply, and the results of the performance evaluation must be included in the notification of compliance status report.
(4) The CEMS data must be reduced to operating day or operating block averages computed using valid data consistent with the data availability requirements specified in § 63.999(c)(6)(i)(B) through (D), except monitoring data also are sufficient to constitute a valid hour of data if measured values are available for at least two of the 15-minute periods during an hour when calibration, quality assurance, or maintenance activities are being performed. An operating block is a period of time from the beginning to end of batch operations within a process. Operating block averages may be used only for batch process vent data.

(5) If you add supplemental gases, you must correct the measured concentrations in accordance with paragraph (i) of this section and § 63.2460(c)(6).

(k) Continuous parameter monitoring. The provisions in paragraphs (k)(1) through (6) of this section apply in addition to the requirements for continuous parameter monitoring system (CPMS) in subpart SS of this part 63.

(1) You must record the results of each calibration check and all maintenance performed on the CPMS as specified in § 63.998(c)(1)(ii)(A).

(2) When subpart SS of this part 63 uses the term “a range” or “operating range” of a monitored parameter, it means an “operating limit” for a monitored parameter for the purposes of this subpart.

(3) As an alternative to continuously measuring and recording pH as specified in §§ 63.994(c)(1)(i) and 63.998(a)(2)(ii)(D), you may elect to continuously monitor and record the caustic strength of the effluent. For halogen scrubbers used to control only batch process vents you may elect to monitor and record either the pH or the caustic strength of the scrubber effluent at least once per day.

(4) As an alternative to the inlet and outlet temperature monitoring requirements for catalytic incinerators as specified in § 63.988(c)(2) and the related recordkeeping requirements specified in § 63.998(a)(2)(ii)(B)(2) and (c)(2)(ii), you may elect to comply with the requirements specified in paragraphs (k)(4)(i) through (iv) of this section.

(i) Monitor and record the inlet temperature as specified in subpart SS of this part 63.

(ii) Check the activity level of the catalyst at least every 12 months and take any necessary corrective action, such as replacing the catalyst to ensure that the catalyst is performing as designed.

(iii) Maintain records of the annual checks of catalyst activity levels and the subsequent corrective actions.

(iv) Recording the downstream temperature and temperature difference across the catalyst bed as specified in § 63.998(a)(2)(ii)(B)(2) and (b)(2)(ii) is not required.

(5) For absorbers that control organic compounds and use water as the scrubbing fluid, you must conduct monitoring and recordkeeping as specified in paragraphs (k)(5)(i) through (iii) of this section instead of the monitoring and recordkeeping requirements specified in §§ 63.990(c)(1), 63.993(c)(1), and 63.998(a)(2)(ii)(C).

(i) You must use a flow meter capable of providing a continuous record of the absorber influent liquid flow.

(ii) You must determine gas stream flow using one of the procedures specified in § 63.994(c)(1)(ii)(A) through (D).

(iii) You must record the absorber liquid-to-gas ratio averaged over the time period of any performance test.

(6) For a control device with total inlet HAP emissions less than 1 tpy, you must establish an operating limit(s) for a parameter(s) that you will measure and record at least once per averaging period (i.e., daily or block) to verify that the control device is operating properly. You may elect to measure the same parameter(s) that is required for control devices that control inlet HAP emissions equal to or greater than 1 tpy. If the parameter will not be measured continuously, you must request approval of your proposed procedure in the precompliance report. You must identify the operating limit(s) and the measurement frequency, and you must provide rationale to support how these measurements demonstrate the control device is operating properly.
(l) **Startup, shutdown, and malfunction.** Sections 63.152(f)(7)(ii) through (iv) and 63.998(b)(2)(iii) and (b)(6)(i)(A), which apply to the exclusion of monitoring data collected during periods of SSM from daily averages, do not apply for the purposes of this subpart.

(m) **Reporting.** (1) When §§ 63.2455 through 63.2490 reference other subparts in this part 63 that use the term “periodic report,” it means “compliance report” for the purposes of this subpart. The compliance report must include the information specified in § 63.2520(e), as well as the information specified in referenced subparts.

(2) When there are conflicts between this subpart and referenced subparts for the due dates of reports required by this subpart, reports must be submitted according to the due dates presented in this subpart.

(3) **Excused excursions, as defined in subparts G and SS of this part 63, are not allowed.**

(n) [Reserved]

(o) You may not use a flare to control halogenated vent streams or hydrogen halide and halogen HAP emissions.

(p) Opening a safety device, as defined in § 63.2550, is allowed at any time conditions require it to avoid unsafe conditions.

(q) If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in Tables 1 through 7 to this subpart, then you must submit documentation in your precompliance report explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will implement to minimize HAP emissions from these vent streams.

(r) **Surge control vessels and bottoms receivers.** For each surge control vessel or bottoms receiver that meets the capacity and vapor pressure thresholds for a Group 1 storage tank, you must meet emission limits and work practice standards specified in Table 4 to this subpart.

(s) For the purposes of determining Group status for continuous process vents, batch process vents, and storage tanks in §§ 63.2455, 63.2460, and 63.2470, hydrazine is to be considered an organic HAP.


§ 63.2455 What requirements must I meet for continuous process vents?

(a) You must meet each emission limit in Table 1 to this subpart that applies to your continuous process vents, and you must meet each applicable requirement specified in paragraphs (b) through (c) of this section.

(b) For each continuous process vent, you must either designate the vent as a Group 1 continuous process vent or determine the total resource effectiveness (TRE) index value as specified in § 63.115(d), except as specified in paragraphs (b)(1) through (3) of this section.

(1) You are not required to determine the Group status or the TRE index value for any continuous process vent that is combined with Group 1 batch process vents before a control device or recovery device because the requirements of § 63.2450(c)(2)(i) apply to the combined stream.

(2) When a TRE index value of 4.0 is referred to in § 63.115(d), TRE index values of 5.0 for existing affected sources and 8.0 for new and reconstructed affected sources apply for the purposes of this subpart.

(3) When § 63.115(d) refers to "emission reductions specified in § 63.113(a)," the reductions specified in Table 1 to this subpart apply for the purposes of this subpart.
(c) If you use a recovery device to maintain the TRE above a specified threshold, you must meet the requirements of § 63.982(e) and the requirements referenced therein, except as specified in § 63.2450 and paragraph (c)(1) of this section.

(1) When § 63.993 uses the phrase "the TRE index value is between the level specified in a referencing subpart and 4.0," the phrase "the TRE index value is >1.9 but ≤5.0" applies for an existing affected source, and the phrase "the TRE index value is >5.0 but ≤8.0" applies for a new and reconstructed affected source, for the purposes of this subpart.

(2) [Reserved]

§ 63.2460 What requirements must I meet for batch process vents?

(a) You must meet each emission limit in Table 2 to this subpart that applies to you, and you must meet each applicable requirement specified in paragraphs (b) and (c) of this section.

(b) Group status. If a process has batch process vents, as defined in § 63.2550, you must determine the group status of the batch process vents by determining and summing the uncontrolled organic HAP emissions from each of the batch process vents within the process using the procedures specified in § 63.1257(d)(2)(i) and (ii), except as specified in paragraphs (b)(1) through (7) of this section.

(1) To calculate emissions caused by the heating of a vessel without a process condenser to a temperature lower than the boiling point, you must use the procedures in § 63.1257(d)(2)(i)(C), except as specified in paragraphs (b)(1) through (7) of this section.

(2) To calculate emissions from depressurization of a vessel without a process condenser, you must use the procedures in § 63.1257(d)(2)(i)(D).

(3) To calculate emissions from vacuum systems for the purposes of this subpart, the receiving vessel is part of the vacuum system, and terms used in Equation 33 to 40 CFR part 63, subpart GGG, are defined as follows:

\[ P_{\text{system}} = \text{absolute pressure of the receiving vessel}; \]

\[ P_i = \text{partial pressure of the HAP determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver}; \]

\[ P_j = \text{partial pressure of condensables (including HAP) determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver}; \]

\[ \text{MW}_{\text{HAP}} = \text{molecular weight of the HAP determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver}. \]

(4) To calculate uncontrolled emissions when a vessel is equipped with a process condenser, you must use the procedures in § 63.1257(d)(3)(i)(B), except as specified in paragraphs (b)(4)(i) through (vii) of this section.

(i) You must determine the flowrate of gas (or volume of gas), partial pressures of condensables, temperature (T), and HAP molecular weight (\( \text{MW}_{\text{HAP}} \)) at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(ii) You must assume that all of the components contained in the condenser exit vent stream are in equilibrium with the same components in the exit condensate stream (except for noncondensables).

(iii) You must perform a material balance for each component.

(iv) For the emissions from gas evolution, the term for time, t, must be used in Equation 12 to 40 CFR part 63, subpart GGG.
(v) Emissions from empty vessel purging shall be calculated using Equation 36 to 40 CFR part 63, subpart GGG and the exit temperature and exit pressure conditions of the condenser or the conditions of the dedicated receiver.

(vi) You must conduct an engineering assessment as specified in § 63.1257(d)(2)(ii) for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum operations, gas evolution, air drying, or empty vessel purging. The requirements of paragraphs (b)(3) through (4) of this section shall apply.

(vii) You may elect to conduct an engineering assessment if you can demonstrate to the Administrator that the methods in § 63.1257(d)(3)(i)(B) are not appropriate.

(5) You may elect to designate the batch process vents within a process as Group 1 and not calculate uncontrolled emissions under either of the situations in paragraph (b)(5)(i), (ii), or (iii) of this section.

(i) If you comply with the alternative standard specified in § 63.2505.

(ii) If all Group 1 batch process vents within a process are controlled; you conduct the performance test under hypothetical worst case conditions, as defined in § 63.1257(b)(8)(ii)(B); and the emission profile is based on capture and control system limitations as specified in § 63.1257(b)(8)(ii)(C).

(iii) If you comply with an emission limit using a flare that meets the requirements specified in § 63.987.

(6) You may change from Group 2 to Group 1 in accordance with either paragraph (b)(6)(i) or (ii) of this section. You must comply with the requirements of this section and submit the test report in the next Compliance report.

(i) You may switch at any time after operating as Group 2 for at least 1 year so that you can show compliance with the 10,000 pounds per year (lb/yr) threshold for Group 2 batch process vents for at least 365 days before the switch. You may elect to start keeping records of emissions from Group 2 batch process vents before the compliance date. Report a switch based on this provision in your next compliance report in accordance with § 63.2520(e)(10)(i).

(ii) If the conditions in paragraph (b)(6)(i) of this section are not applicable, you must provide a 60-day advance notice in accordance with § 63.2520(e)(10)(ii) before switching.

(7) As an alternative to determining the uncontrolled organic HAP emissions as specified in § 63.1257(d)(2)(i) and (ii), you may elect to demonstrate that non-reactive organic HAP are the only HAP used in the process and non-reactive HAP usage in the process is less than 10,000 lb/yr. You must provide data and supporting rationale in your notification of compliance status report explaining why the non-reactive organic HAP usage will be less than 10,000 lb/yr. You must keep records of the non-reactive organic HAP usage as specified in § 63.2525(e)(2) and include information in compliance reports as specified in § 63.2520(e)(5)(iv).

(c) Exceptions to the requirements in subparts SS and WW of this part 63 are specified in paragraphs (c)(1) through (9) of this section.

(1) Process condensers. Process condensers, as defined in § 63.2550(i), are not considered to be control devices for batch process vents. You must determine whether a condenser is a control device for a batch process vent or a process condenser from which the uncontrolled HAP emissions are evaluated as part of the initial compliance demonstration for each MCPU and report the results with supporting rationale in your notification of compliance status report.

(2) Initial compliance. (i) To demonstrate initial compliance with a percent reduction emission limit in Table 2 to this subpart FFFF, you must compare the sums of the controlled and uncontrolled emissions for the applicable Group 1 batch process vents within the process, and show that the specified reduction is met. This requirement does not apply if you comply with the emission limits of Table 2 to this subpart FFFF by using a flare that meets the requirements of § 63.987.

(ii) When you conduct a performance test or design evaluation for a non-flare control device used to control emissions from batch process vents, you must establish emission profiles and conduct the test under worst-case conditions according to § 63.1257(b)(8) instead of under normal operating conditions as specified in § 63.7(e)(1). The
requirements in § 63.997(e)(1)(i) and (iii) also do not apply for performance tests conducted to determine compliance with the emission limits for batch process vents. For purposes of this subpart FFFF, references in § 63.997(b)(1) to “methods specified in § 63.997(e)” include the methods specified in § 63.1257(b)(8).

(iii) As an alternative to conducting a performance test or design evaluation to demonstrate initial compliance with a percent reduction requirement for a condenser, you may determine controlled emissions using the procedures specified in § 63.1257(d)(3)(i)(B) and paragraphs (b)(3) through (4) of this section.

(iv) When § 63.1257(d)(3)(i)(B)(7) specifies that condenser-controlled emissions from an air dryer must be calculated using Equation 11 of 40 CFR part 63, subpart GGG, with “V equal to the air flow rate,” it means “V equal to the dryer outlet gas flow rate,” for the purposes of this subpart. Alternatively, you may use Equation 12 of 40 CFR part 63, subpart GGG, with V equal to the dryer inlet air flow rate. Account for time as appropriate in either equation.

(v) If a process condenser is used for any boiling operations, you must demonstrate that it is properly operated according to the procedures specified in § 63.1257(d)(2)(i)(C)(4)(ii) and (d)(3)(iii)(B), and the demonstration must occur only during the boiling operation. The reference in § 63.1257(d)(3)(iii)(B) to the alternative standard in § 63.1254(c) means § 63.2505 for the purposes of this subpart. As an alternative to measuring the exhaust gas temperature, as required by § 63.1257(d)(3)(iii)(B), you may elect to measure the liquid temperature in the receiver.

(vi) You must conduct a subsequent performance test or compliance demonstration equivalent to an initial compliance demonstration within 180 days of a change in the worst-case conditions.

(3) Establishing operating limits. You must establish operating limits under the conditions required for your initial compliance demonstration, except you may elect to establish operating limit(s) for conditions other than those under which a performance test was conducted as specified in paragraph (c)(3)(i) of this section and, if applicable, paragraph (c)(3)(ii) of this section.

(i) The operating limits may be based on the results of the performance test and supplementary information such as engineering assessments and manufacturer’s recommendations. These limits may be established for conditions as unique as individual emission episodes for a batch process. You must provide rationale in the precompliance report for the specific level for each operating limit, including any data and calculations used to develop the limit and a description of why the limit indicates proper operation of the control device. The procedures provided in this paragraph (c)(3)(i) have not been approved by the Administrator and determination of the operating limit using these procedures is subject to review and approval by the Administrator.

(ii) If you elect to establish separate monitoring levels for different emission episodes within a batch process, you must maintain records in your daily schedule or log of processes indicating each point at which you change from one operating limit to another, even if the duration of the monitoring for an operating limit is less than 15 minutes. You must maintain a daily schedule or log of processes according to § 63.2525(c).

(4) Averaging periods. As an alternative to the requirement for daily averages in § 63.998(b)(3), you may determine averages for operating blocks. An operating block is a period of time that is equal to the time from the beginning to end of batch process operations within a process.

(5) [Reserved]

(6) Outlet concentration correction for supplemental gases. If you use a control device other than a combustion device to comply with a TOC, organic HAP, or hydrogen halide and halogen HAP outlet concentration emission limit for batch process vents, you must correct the actual concentration for supplemental gases using Equation 1 of this section; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

\[
C'_a = C'_\infty \left( \frac{Q'_a + Q'_{a,s}}{Q'_a} \right) \quad (Eq. \ 1)
\]

Where:
(7) If flow to a control device could be intermittent, you must install, calibrate, and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow. Periods of no flow may not be used in daily or block averages, and it may not be used in fulfilling a minimum data availability requirement.

(8) Terminology. When the term “storage vessel” is used in subpart WW of this part 63, the term “process tank,” as defined in § 63.2550(i), applies for the purposes of this section.

(9) Requirements for a biofilter. If you use a biofilter to meet either the 95 percent reduction requirement or outlet concentration requirement specified in Table 2 to this subpart, you must meet the requirements specified in paragraphs (c)(9)(i) through (iv) of this section.

(i) Operational requirements. The biofilter must be operated at all times when emissions are vented to it.

(ii) Performance tests. To demonstrate initial compliance, you must conduct a performance test according to the procedures in § 63.997 and paragraphs (c)(9)(ii)(A) through (D) of this section. The design evaluation option for small control devices is not applicable if you use a biofilter.

(A) Keep up-to-date, readily accessible continuous records of either the biofilter bed temperature averaged over the full period of the performance test or the outlet total organic HAP or TOC concentration averaged over the full period of the performance test. Include these data in your notification of compliance status report as required by § 63.999(b)(3)(ii).

(B) Record either the percent reduction of total organic HAP achieved by the biofilter determined as specified in § 63.997(e)(2)(iv) or the concentration of TOC or total organic HAP determined as specified in § 63.997(e)(2)(iii) at the outlet of the biofilter, as applicable.

(C) If you monitor the biofilter bed temperature, you may elect to use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15 minute (or shorter) averages for purposes of establishing operating limits for the biofilter. If you use multiple thermocouples, include your rationale for their site selection in your notification of compliance status report.

(D) Submit a performance test report as specified in § 63.999(a)(2)(i) and (ii). Include the records from paragraph (c)(9)(ii)(B) of this section in your performance test report.

(iii) Monitoring requirements. Use either a biofilter bed temperature monitoring device (or multiple devices) capable of providing a continuous record or an organic monitoring device capable of providing a continuous record. Keep records of temperature or other parameter monitoring results as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring are contained in § 63.996. If you monitor temperature, the operating temperature range must be based on only the temperatures measured during the performance test; these data may not be supplemented by engineering assessments or manufacturer's recommendations as otherwise allowed in § 63.999(b)(3)(ii)(A). If you establish the operating range (minimum and maximum temperatures) using data from previous performance tests in accordance with § 63.996(c)(6), replacement of the biofilter media with the same type of media is not considered a process change under § 63.997(b)(1). You may expand your biofilter bed temperature operating range by conducting a repeat performance test that demonstrates compliance with the 95 percent reduction requirement or outlet concentration limit, as applicable.
(iv) Repeat performance tests. You must conduct a repeat performance test using the applicable methods specified in § 63.997 within 2 years following the previous performance test and within 150 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40333, July 14, 2006]

§ 63.2465 What requirements must I meet for process vents that emit hydrogen halide and halogen HAP or HAP metals?

(a) You must meet each emission limit in Table 3 to this subpart that applies to you, and you must meet each applicable requirement in paragraphs (b) through (d) of this section.

(b) If any process vents within a process emit hydrogen halide and halogen HAP, you must determine and sum the uncontrolled hydrogen halide and halogen HAP emissions from each of the process vents within the process using the procedures specified in § 63.1257(d)(2)(i) and/or (ii), as appropriate. When § 63.1257(d)(2)(ii)(E) requires documentation to be submitted in the precompliance report, it means the notification of compliance status report for the purposes of this paragraph.

(c) If collective uncontrolled hydrogen halide and halogen HAP emissions from the process vents within a process are greater than or equal to 1,000 pounds per year (lb/yr), you must comply with § 63.994 and the requirements referenced therein, except as specified in paragraphs (c)(1) through (3) of this section.

(1) When § 63.994(b)(1) requires a performance test, you may elect to conduct a design evaluation in accordance with § 63.1257(a)(1).

(2) When § 63.994(b)(1) refers to “a combustion device followed by a halogen scrubber or other halogen reduction device,” it means any combination of control devices used to meet the emission limits specified in Table 3 to this subpart.

(3) Section 63.994(b)(2) does not apply for the purposes of this section.

(d) To demonstrate compliance with the emission limit in Table 3 to this subpart for HAP metals at a new source, you must comply with paragraphs (d)(1) through (3) of this section.

(1) Determine the mass emission rate of HAP metals based on process knowledge, engineering assessment, or test data.

(2) Conduct an initial performance test of each control device that is used to comply with the emission limit for HAP metals specified in Table 3 to this subpart. Conduct the performance test according to the procedures in § 63.997. Use Method 29 of appendix A of 40 CFR part 60 to determine the HAP metals at the inlet and outlet of each control device, or use Method 5 of appendix A of 40 CFR part 60 to determine the total particulate matter (PM) at the inlet and outlet of each control device. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM from the process is greater than or equal to 97 percent by weight.

(3) Comply with the monitoring requirements specified in § 63.1366(b)(1)(xi) for each fabric filter used to control HAP metals.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40334, July 14, 2006]

§ 63.2470 What requirements must I meet for storage tanks?

(a) You must meet each emission limit in Table 4 to this subpart that applies to your storage tanks, and you must meet each applicable requirement specified in paragraphs (b) through (e) of this section.

(b) [Reserved]
(c) **Exceptions to subparts SS and WW of this part 63.** (1) If you conduct a performance test or design evaluation for a control device used to control emissions only from storage tanks, you must establish operating limits, conduct monitoring, and keep records using the same procedures as required in subpart SS of this part 63 for control devices used to reduce emissions from process vents instead of the procedures specified in §§ 63.985(c), 63.998(d)(2)(i), and 63.999(b)(2).

(2) When the term “storage vessel” is used in subparts SS and WW of this part 63, the term “storage tank,” as defined in § 63.2550 applies for the purposes of this subpart.

(d) **Planned routine maintenance.** The emission limits in Table 4 to this subpart for control devices used to control emissions from storage tanks do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of each control device, during which the control device does not meet the emission limit specified in Table 4 to this subpart, must not exceed 240 hours per year (hr/yr). You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed, it must indicate that no material will be added to the storage tank between the time the 240-hr limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hr limit will be exceeded.

(e) **Vapor balancing alternative.** As an alternative to the emission limits specified in Table 4 to this subpart, you may elect to implement vapor balancing in accordance with § 63.1253(f), except as specified in paragraphs (e)(1) through (3) of this section.

(1) When § 63.1253(f)(6)(i) refers to a 90 percent reduction, 95 percent applies for the purposes of this subpart.

(2) To comply with § 63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with §§ 63.2445 through 63.2550 instead of complying with § 63.1253(f)(7)(ii), except as specified in paragraph (e)(2)(i) or (ii) of this section.

(i) The reporting requirements in § 63.2520 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(ii) As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§ 63.2445 through 63.2550, the owner or operator of an offsite cleaning or reloading facility may comply as specified in § 63.2535(a)(2) with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in § 63.2535(a)(2).

(3) You may elect to set a pressure relief device to a value less than the 2.5 pounds per square inch gage pressure (psig) required in § 63.1253(f)(5) if you provide rationale in your notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times.

(4) You may comply with the vapor balancing alternative in § 63.1253(f) when your storage tank is filled from a barge. All requirements for tank trucks and railcars specified in § 63.1253(f) also apply to barges, except as specified in § 63.2470(e)(4)(i).

(i) When § 63.1253(f)(2) refers to pressure testing certifications, the requirements in 40 CFR 61.304(f) apply for barges.

(ii) [Reserved]

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

§ 63.2475 What requirements must I meet for transfer racks?

(a) You must comply with each emission limit and work practice standard in table 5 to this subpart that applies to your transfer racks, and you must meet each applicable requirement in paragraphs (b) and (c) of this section.
(b) When the term “high throughput transfer rack” is used in subpart SS of this part 63, the term “Group 1 transfer rack,” as defined in § 63.2550, applies for the purposes of this subpart.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40335, July 14, 2006]

§ 63.2480 What requirements must I meet for equipment leaks?

(a) You must meet each requirement in table 6 to this subpart that applies to your equipment leaks, except as specified in paragraphs (b) through (d) of this section.

(b) If you comply with either subpart H or subpart UU of this part 63, you may elect to comply with the provisions in paragraphs (b)(1) through (5) of this section as an alternative to the referenced provisions in subpart H or subpart UU of this part.

1. The requirements for pressure testing in § 63.179(b) or § 63.1036(b) may be applied to all processes, not just batch processes.

2. For the purposes of this subpart, pressure testing for leaks in accordance with § 63.179(b) or § 63.1036(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

3. For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under § 63.1022(b)(1) or § 63.181(b)(1)(i).

4. For connectors in gas/vapor and light liquid service at an existing source, you may elect to comply with the requirements in § 63.169 or § 63.1029 for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements of § 63.174 or § 63.1027.

5. For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 parts per million (ppm) or greater as an alternative to the values specified in § 63.1026(b)(2)(i) through (iii) or § 63.163(b)(2).

(c) If you comply with 40 CFR part 65, subpart F, you may elect to comply with the provisions in paragraphs (c)(1) through (9) of this section as an alternative to the referenced provisions in 40 CFR part 65, subpart F.

1. The requirements for pressure testing in § 65.117(b) may be applied to all processes, not just batch processes.

2. For the purposes of this subpart, pressure testing for leaks in accordance with § 65.117(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

3. For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under § 65.103(b)(1).

4. You may elect to comply with the monitoring and repair requirements specified in § 65.108(e)(3) as an alternative to the requirements specified in § 65.108(a) through (d) for any connectors at your affected source.

5. For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 ppm or greater as an alternative to the values specified in § 65.107(b)(2)(i) through (iii).

6. When 40 CFR part 65, subpart F refers to the implementation date specified in § 65.1(f), it means the compliance date specified in § 63.2445.

7. When §§ 65.105(f) and 65.117(d)(3) refer to § 65.4, it means § 63.2525.

8. When § 65.120(a) refers to § 65.5(d), it means § 63.2515.
(9) When § 65.120(b) refers to § 65.5(e), it means § 63.2520.

(d) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

[71 FR 40335, July 14, 2006]

§ 63.2485 What requirements must I meet for wastewater streams and liquid streams in open systems within an MCPU?

(a) You must meet each requirement in table 7 to this subpart that applies to your wastewater streams and liquid streams in open systems within an MCPU, except as specified in paragraphs (b) through (o) of this section.

(b) Wastewater HAP. Where § 63.105 and §§ 63.132 through 63.148 refer to compounds in table 9 of subpart G of this part 63, the compounds in tables 8 and 9 to this subpart apply for the purposes of this subpart.

(c) Group 1 wastewater. Section 63.132(c)(1) (i) and (ii) do not apply. For the purposes of this subpart, a process wastewater stream is Group 1 for compounds in tables 8 and 9 to this subpart if any of the conditions specified in paragraphs (c) (1) through (3) of this section are met.

(1) The total annual average concentration of compounds in table 8 to this subpart is greater than or equal to 10,000 ppmw at any flowrate, and the total annual load of compounds in table 8 to this subpart is greater than or equal to 200 lb/yr.

(2) The total annual average concentration of compounds in table 8 to this subpart is greater than or equal to 1,000 ppmw, and the annual average flowrate is greater than or equal to 1 l/min.

(3) The combined total annual average concentration of compounds in tables 8 and 9 to this subpart is greater than or equal to 30,000 ppmw, and the combined total annual load of compounds in tables 8 and 9 to this subpart is greater than or equal to 1 tpy.

(d) Wastewater tank requirements. (1) When §§ 63.133 and 63.147 reference floating roof requirements in §§ 63.119 and 63.120, the corresponding requirements in subpart WW of this part 63 may be applied for the purposes of this subpart.

(2) When § 63.133(a) refers to table 10 of subpart G of this part 63, the maximum true vapor pressure in the table shall be limited to the HAP listed in tables 8 and 9 of this subpart FFFF.

(3) For the purposes of this subpart, the requirements of § 63.133(a)(2) are satisfied by operating and maintaining a fixed roof if you demonstrate that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged.

(4) The emission limits specified in §§ 63.133(b)(2) and 63.139 for control devices used to control emissions from wastewater tanks do not apply during periods of planned routine maintenance of the control device(s) of no more than 240 hr/yr. You may request an extension to a total of 360 hr/yr in accordance with the procedures specified in § 63.2470(d).

(e) Individual drain systems. The provisions of § 63.136(e)(3) apply except as specified in paragraph (e)(1) of this section.

(1) A sewer line connected to drains that are in compliance with § 63.136(e)(1) may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designed as specified in § 63.136(e)(2)(ii)(A).

(2) [Reserved]
(f) **Closed-vent system requirements.** When § 63.148(k) refers to closed vent systems that are subject to the requirements of § 63.172, the requirements of either § 63.172 or § 63.1034 apply for the purposes of this subpart.

(g) **Halogenated vent stream requirements.** For each halogenated vent stream from a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream that is vented through a closed-vent system to a combustion device to reduce organic HAP emissions, you must meet the same emission limits as specified for batch process vents in item 2 of table 2 to this subpart.

(h) **Alternative test methods.** (1) As an alternative to the test methods specified in § 63.144(b)(5)(i), you may use Method 8260 or 8270 as specified in § 63.1257(b)(10)(iii).

(2) As an alternative to using the methods specified in § 63.144(b)(5)(i), you may conduct wastewater analyses using Method 1666 or 1671 of 40 CFR part 136 and comply with the sampling protocol requirements specified in § 63.144(b)(5)(ii). The validation requirements specified in § 63.144(b)(5)(iii) do not apply if you use Method 1666 or 1671 of 40 CFR part 136.

(3) As an alternative to using Method 18 of 40 CFR part 60, as specified in §§ 63.139(c)(1)(ii) and 63.145(i)(2), you may elect to use Method 25A of 40 CFR part 60 as specified in § 63.997.

(i) **Offsite management and treatment option.** (1) If you ship wastewater to an offsite treatment facility that meets the requirements of § 63.138(h), you may elect to document in your notification of compliance status report that the wastewater will be treated as hazardous waste at a facility that meets the requirements of § 63.138(h) as an alternative to having the offsite facility submit the certification specified in § 63.132(g)(2).

(2) As an alternative to the management and treatment options specified in § 63.132(g)(2), any affected wastewater stream (or residual removed from an affected wastewater stream) with a total annual average concentration of compounds in Table 8 to this subpart less than 50 ppmw may be transferred offsite in accordance with paragraphs (i)(2)(i) and (ii) of this section.

(i) The transferee (or you) must demonstrate that less than 5 percent of the HAP in Table 9 to this subpart is emitted from the waste management units up to the activated sludge unit.

(ii) The transferee must treat the wastewater stream or residual in a biological treatment unit in accordance with §§ 63.138 and 63.145 and the requirements referenced therein.

(j) You must determine the annual average concentration and annual average flowrate for wastewater streams for each MCPU. The procedures for flexible operation units specified in § 63.144(b) and (c) do not apply for the purposes of this subpart.

(k) The requirement to correct outlet concentrations from combustion devices to 3 percent oxygen in §§ 63.139(c)(1)(ii) and 63.146(i)(6) applies only if supplemental gases are combined with a vent stream from a Group 1 wastewater stream. If emissions are controlled with a vapor recovery system as specified in § 63.139(c)(2), you must correct for supplemental gases as specified in § 63.2460(c)(6).

(l) **Requirements for liquid streams in open systems.** (1) References in § 63.149 to § 63.100(b) mean § 63.2435(b) for the purposes of this subpart.

(2) When § 63.149(e) refers to 40 CFR 63.100(l) (1) or (2), § 63.2445(a) applies for the purposes of this subpart.

(3) When § 63.149 uses the term “chemical manufacturing process unit,” the term “MCPU” applies for the purposes of this subpart.

(4) When § 63.149(e)(1) refers to characteristics of water that contain compounds in Table 9 to 40 CFR part 63, subpart G, the characteristics specified in paragraphs (c) (1) through (3) of this section apply for the purposes of this subpart.
(5) When § 63.149(e)(2) refers to characteristics of water that contain compounds in Table 9 to 40 CFR part 63, subpart G, the characteristics specified in paragraph (c)(2) of this section apply for the purposes of this subpart.

(m) When § 63.132(f) refers to “a concentration of greater than 10,000 ppmw of table 9 compounds,” the phrase “a concentration of greater than 30,000 ppmw of total partially soluble HAP (PSHAP) and soluble HAP (SHAP) or greater than 10,000 ppmw of PSHAP” shall apply for the purposes of this subpart.

(n) Alternative requirements for wastewater that is Group 1 for soluble HAP only. The option specified in this paragraph (n) applies to wastewater that is Group 1 for soluble HAP in accordance with paragraph (c)(3) of this section and is discharged to biological treatment. Except as provided in paragraph (n)(4) of this section, this option does not apply to wastewater that is Group 1 for partially soluble HAP in accordance with paragraph (c)(1), (c)(2), or (c)(4) of this section. For wastewater that is Group 1 for SHAP, you need not comply with §§ 63.133 through 63.137 for any equalization unit, neutralization unit, and/or clarifier prior to the activated sludge unit, and you need not comply with the venting requirements in § 63.136(e)(2)(ii)(A) for lift stations with a volume larger than 10,000 gal, provided you comply with the requirements specified in paragraphs (n)(1) through (3) of this section and all otherwise applicable requirements specified in table 7 to this subpart. For this option, the treatment requirements in § 63.138 and the performance testing requirements in § 63.145 do not apply to the biological treatment unit, except as specified in paragraphs (n)(2)(i) through (vi) of this section.

(1) Wastewater must be hard-piped between the equalization unit, clarifier, and activated sludge unit. This requirement does not apply to the transfer between any of these types of units that are part of the same structure and one unit overflows into the next.

(2) Calculate the destruction efficiency of the biological treatment unit using Equation 1 of this section in accordance with the procedures described in paragraphs (n)(2)(i) through (vi) of this section. You have demonstrated initial compliance if E is greater than or equal to 90 percent.

\[
E = \left( \frac{QMW_a - QMG_e - QMG_n - QMG_c}{QMW_a} \right) F_{\text{bio}} \times 100 \quad \text{(Eq. 1)}
\]

Where:

E = destruction efficiency of total PSHAP and SHAP for the biological treatment unit including the equalization unit, neutralization unit, and/or clarifier, percent;

QMW\(_a\) = mass flow rate of total PSHAP and SHAP compounds entering the equalization unit (or whichever of the three types of units is first), kilograms per hour (kg/hr);

QMG\(_e\) = mass flow rate of total PSHAP and SHAP compounds emitted from the equalization unit, kg/hr;

QMG\(_n\) = mass flow rate of total PSHAP and SHAP compounds emitted from the neutralization unit, kg/hr;

QMG\(_c\) = mass flow rate of total PSHAP and SHAP compounds emitted from the clarifier, kg/hr

F\(_{\text{bio}}\) = site-specific fraction of PSHAP and SHAP compounds biodegraded in the biological treatment unit.

(i) Include all PSHAP and SHAP compounds in both Group 1 and Group 2 wastewater streams from all MCPU, except you may exclude any compounds that meet the criteria specified in § 63.145(a)(6)(ii) or (iii).

(ii) Conduct the demonstration under representative process unit and treatment unit operating conditions in accordance with § 63.145(a)(3) and (4).

(iii) Determine PSHAP and SHAP concentrations and the total wastewater flow rate at the inlet to the equalization unit in accordance with § 63.145(f)(1) and (2). References in § 63.145(f)(1) and (2) to required mass removal and actual mass removal do not apply for the purposes of this section.
(iv) Determine $F_{bio}$ for the activated sludge unit as specified in § 63.145(h), except as specified in paragraph (n)(2)(iv)(A) or paragraph (n)(2)(iv)(B) of this section.

(A) If the biological treatment process meets both of the requirements specified in § 63.145(h)(1)(i) and (ii), you may elect to replace the $F_{bio}$ term in Equation 1 of this section with the numeral “1.”

(B) You may elect to assume $F_{bio}$ is zero for any compounds on List 2 of table 36 in subpart G.

(v) Determine $Q_{MG_e}$, $Q_{MG_n}$, and $Q_{MG_c}$ using EPA's WATER9 model or the most recent update to this model, and conduct testing or use other procedures to validate the modeling results.

(vi) Submit the data and results of your demonstration, including both a description of and the results of your WATER9 modeling validation procedures, in your notification of compliance status report as specified in § 63.2520(d)(2)(ii).

(3) As an alternative to the venting requirements in § 63.136(e)(2)(ii)(A), a lift station with a volume larger than 10,000 gal may have openings necessary for proper venting of the lift station. The size and other design characteristics of these openings may be established based on manufacturer recommendations or engineering judgment for venting under normal operating conditions. You must describe the design of such openings and your supporting calculations and other rationale in your notification of compliance status report.

(4) For any wastewater streams that are Group 1 for both PSHAP and SHAP, you may elect to meet the requirements specified in table 7 to this subpart for the PSHAP and then comply with paragraphs (n)(1) through (3) of this section for the SHAP in the wastewater system. You may determine the SHAP mass removal rate, in kg/hr, in treatment units that are used to meet the requirements for PSHAP and add this amount to both the numerator and denominator in Equation 1 of this section.

(o) Compliance records. For each CPMS used to monitor a nonflare control device for wastewater emissions, you must keep records as specified in § 63.998(c)(1) in addition to the records required in § 63.147(d).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

§ 63.2490  What requirements must I meet for heat exchange systems?

(a) You must comply with each requirement in Table 10 to this subpart that applies to your heat exchange systems, except as specified in paragraphs (b) and (c) of this section.

(b) The phrase “a chemical manufacturing process unit meeting the conditions of § 63.100 (b)(1) through (b)(3) of this section” in § 63.104(a) means “an MCPU meeting the conditions of § 63.2435” for the purposes of this subpart.

(c) The reference to § 63.100(c) in § 63.104(a) does not apply for the purposes of this subpart.

Alternative Means of Compliance

§ 63.2495  How do I comply with the pollution prevention standard?

(a) You may elect to comply with the pollution prevention alternative requirements specified in paragraphs (a) (1) and (2) of this section in lieu of the emission limitations and work practice standards contained in Tables 1 through 7 to this subpart for any MCPU for which initial startup occurred before April 4, 2002.

(1) You must reduce the production-indexed HAP consumption factor (HAP factor) by at least 65 percent from a 3-year average baseline beginning no earlier than the 1994 through 1996 calendar years. For any reduction in the HAP factor that you achieve by reducing HAP that are also volatile organic compounds (VOC), you must demonstrate an equivalent reduction in the production-indexed VOC consumption factor (VOC factor) on a mass basis. For any reduction in the HAP factor that you achieve by reducing a HAP that is not a VOC, you may not increase the VOC factor.
(2) Any MCPU for which you seek to comply by using the pollution prevention alternative must begin with the same starting material(s) and end with the same product(s). You may not comply by eliminating any steps of a process by transferring the step offsite (to another manufacturing location). You may also not merge a solvent recovery step conducted offsite to onsite and as part of an existing process as a method of reducing consumption.

(3) You may comply with the requirements of paragraph (a)(1) of this section for a series of processes, including situations where multiple processes are merged, if you demonstrate to the satisfaction of the Administrator that the multiple processes were merged after the baseline period into an existing process or processes.

(b) Exclusions. (1) You must comply with the emission limitations and work practice standards contained in tables 1 through 7 of this subpart for all HAP that are generated in the MCPU and that are not included in consumption, as defined in § 63.2550. If any vent stream routed to the combustion control is a halogenated vent stream, as defined in § 63.2550, then hydrogen halides that are generated as a result of combustion control must be controlled according to the requirements of § 63.994 and the requirements referenced therein.

(2) You may not merge nondedicated formulation or nondedicated solvent recovery processes with any other processes.

(c) Initial compliance procedures. To demonstrate initial compliance with paragraph (a) of this section, you must prepare a demonstration summary in accordance with paragraph (c) (1) of this section and calculate baseline and target annual HAP and VOC factors in accordance with paragraphs (c) (2) and (3) of this section.

(1) Demonstration plan. You must prepare a pollution prevention demonstration plan that contains, at a minimum, the information in paragraphs (c)(1) (i) through (iii) of this section for each MCPU for which you comply with paragraph (a) of this section.

(i) Descriptions of the methodologies and forms used to measure and record consumption of HAP and VOC compounds.

(ii) Descriptions of the methodologies and forms used to measure and record production of the product(s).

(iii) Supporting documentation for the descriptions provided in accordance with paragraphs (c)(1) (i) and (ii) of this section including, but not limited to, samples of operator log sheets and daily, monthly, and/or annual inventories of materials and products. You must describe how this documentation will be used to calculate the annual factors required in paragraph (d) of this section.

(2) Baseline factors. You must calculate baseline HAP and VOC factors by dividing the consumption of total HAP and total VOC by the production rate, per process, for the first 3-year period in which the process was operational, beginning no earlier than the period consisting of the 1994 through 1996 calendar years.

(3) Target annual factors. You must calculate target annual HAP and VOC factors. The target annual HAP factor must be equal to 35 percent of the baseline HAP factor. The target annual VOC factor must be lower than the baseline VOC factor by an amount equivalent to the reduction in any HAP that is also a VOC, on a mass basis. The target annual VOC factor may be the same as the baseline VOC factor if the only HAP you reduce is not a VOC.

(d) Continuous compliance requirements. You must calculate annual rolling average values of the HAP and VOC factors (annual factors) in accordance with the procedures specified in paragraphs (d) (1) through (3) of this section. To show continuous compliance, the annual factors must be equal to or less than the target annual factors calculated according to paragraph (c)(3) of this section.

(1) To calculate the annual factors, you must divide the consumption of both total HAP and total VOC by the production rate, per process, for 12-month periods at the frequency specified in either paragraph (d) (2) or (3) of this section, as applicable.

(2) For continuous processes, you must calculate the annual factors every 30 days for the 12-month period preceding the 30th day (i.e., annual rolling average calculated every 30 days). A process with both batch and continuous operations is considered a continuous process for the purposes of this section.
(3) For batch processes, you must calculate the annual factors every 10 batches for the 12-month period preceding the 10th batch (i.e., annual rolling average calculated every 10 batches), except as specified in paragraphs (d)(3)(i) and (ii) of this section.

(i) If you produce more than 10 batches during a month, you must calculate the annual factors at least once during that month.

(ii) If you produce less than 10 batches in a 12-month period, you must calculate the annual factors for the number of batches in the 12-month period since the previous calculations.

(e) Records. You must keep records of HAP and VOC consumption, production, and the rolling annual HAP and VOC factors for each MCU for which you are complying with paragraph (a) of this section.

(f) Reporting. (1) You must include the pollution prevention demonstration plan in the precompliance report required by § 63.2520(c).

(2) You must identify all days when the annual factors were above the target factors in the compliance reports.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40336, July 14, 2006]

§ 63.2500 How do I comply with emissions averaging?

(a) For an existing source, you may elect to comply with the percent reduction emission limitations in Tables 1, 2, 4, 5, and 7 to this subpart by complying with the emissions averaging provisions specified in § 63.150, except as specified in paragraphs (b) through (f) of this section.

(b) The batch process vents in an MCU collectively are considered one individual emission point for the purposes of emissions averaging, except that only individual batch process vents must be excluded to meet the requirements of § 63.150(d)(5).

(c) References in § 63.150 to §§ 63.112 through 63.130 mean the corresponding requirements in §§ 63.2450 through 63.2490, including applicable monitoring, recordkeeping, and reporting.

(d) References to “periodic reports” in § 63.150 mean “compliance report” for the purposes of this subpart.

(e) For batch process vents, estimate uncontrolled emissions for a standard batch using the procedures in § 63.1257(d)(2)(i) and (ii) instead of the procedures in § 63.150(g)(2). Multiply the calculated emissions per batch by the number of batches per month when calculating the monthly emissions for use in calculating debits and credits.

(f) References to “storage vessels” in § 63.150 mean “storage tank” as defined in § 63.2550 for the purposes of this subpart.

§ 63.2505 How do I comply with the alternative standard?

As an alternative to complying with the emission limits and work practice standards for process vents and storage tanks in Tables 1 through 4 to this subpart and the requirements in §§ 63.2455 through 63.2470, you may comply with the emission limits in paragraph (a) of this section and demonstrate compliance in accordance with the requirements in paragraph (b) of this section.

(a) Emission limits and work practice standards. (1) You must route vent streams through a closed-vent system to a control device that reduces HAP emissions as specified in either paragraph (a)(1)(i) or (ii) of this section.

(i) If you use a combustion control device, it must reduce HAP emissions as specified in paragraphs (a)(1)(i)(A), (B), and (C) of this section.

(A) To an outlet TOC concentration of 20 parts per million by volume (ppmv) or less.
(B) To an outlet concentration of hydrogen halide and halogen HAP of 20 ppmv or less.

(C) As an alternative to paragraph (a)(1)(i)(B) of this section, if you control halogenated vent streams emitted from a combustion device followed by a scrubber, reduce the hydrogen halide and halogen HAP generated in the combustion device by greater than or equal to 95 percent by weight in the scrubber.

(ii) If you use a noncombustion control device(s), it must reduce HAP emissions to an outlet total organic HAP concentration of 50 ppmv or less, and an outlet concentration of hydrogen halide and halogen HAP of 50 ppmv or less.

(2) Any Group 1 process vents within a process that are not controlled according to this alternative standard must be controlled according to the emission limits in tables 1 through 3 to this subpart.

(b) Compliance requirements. To demonstrate compliance with paragraph (a) of this section, you must meet the requirements of § 63.1258(b)(5) beginning no later than the initial compliance date specified in § 63.2445, except as specified in paragraphs (b)(1) through (9) of this section.

(1) You must comply with the requirements in § 63.983 and the requirements referenced therein for closed-vent systems.

(2) When § 63.1258(b)(5)(i) refers to §§ 63.1253(d) and 63.1254(c), the requirements in paragraph (a) of this section apply for the purposes of this subpart FFFF.

(3) When § 63.1258(b)(5)(i)(B) refers to “HCl,” it means “total hydrogen halide and halogen HAP” for the purposes of this subpart FFFF.

(4) When § 63.1258(b)(5)(ii) refers to § 63.1257(a)(3), it means § 63.2450(j)(5) for the purposes of this subpart FFFF.

(5) You must submit the results of any determination of the target analytes of predominant HAP in the notification of compliance status report.

(6) If you elect to comply with the requirement to reduce hydrogen halide and halogen HAP by greater than or equal to 95 percent by weight in paragraph (a)(1)(i)(C) of this section, you must meet the requirements in paragraphs (b)(6)(i) and (ii) of this section.

(i) Demonstrate initial compliance with the 95 percent reduction by conducting a performance test and setting a site-specific operating limit(s) for the scrubber in accordance with § 63.994 and the requirements referenced therein. You must submit the results of the initial compliance demonstration in the notification of compliance status report.

(ii) Install, operate, and maintain CPMS for the scrubber as specified in §§ 63.994(c) and 63.2450(k), instead of as specified in § 63.1258(b)(5)(i)(C).

(7) If flow to the scrubber could be intermittent, you must install, calibrate, and operate a flow indicator as specified in § 63.2460(c)(7).

(8) Use the operating day as the averaging period for CEMS data and scrubber parameter monitoring data.

(9) The requirements in paragraph (a) of this section do not apply to emissions from storage tanks during periods of planned routine maintenance of the control device that do not exceed 240 hr/yr. You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr in accordance with the procedures specified in § 63.2470(d). You must comply with the recordkeeping and reporting specified in §§ 63.998(d)(2)(ii) and 63.999(c)(4) for periods of planned routine maintenance.
Notification, Reports, and Records

§ 63.2515 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (5), 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) Initial notification. As specified in § 63.9(b)(2), if you startup your affected source before November 10, 2003, you must submit an initial notification not later than 120 calendar days after November 10, 2003.

(2) As specified in § 63.9(b)(3), if you startup your new affected source on or after November 10, 2003, you must submit an initial notification not later than 120 calendar days after you become subject to this subpart.

(c) Notification of performance test. If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in § 63.7(b)(1). For any performance test required as part of the initial compliance procedures for batch process vents in table 2 to this subpart, you must also submit the test plan required by § 63.7(c) and the emission profile with the notification of the performance test.

§ 63.2520 What reports must I submit and when?

(a) You must submit each report in Table 11 to 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 11 to this subpart and according to paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.2445 and ending on June 30 or December 31, whichever date is the first date following the end of the first 6 months after the compliance date that is specified for your affected source in § 63.2445.

(2) The first compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the first reporting period specified in paragraph (b)(1) of this section.

(3) 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) Each subsequent compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 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 (4) of this section.

(c) Precompliance report. You must submit a precompliance report to request approval for any of the items in paragraphs (c)(1) through (7) of this section. We will either approve or disapprove the report within 90 days after we receive it. If we disapprove the report, you must still be in compliance with the emission limitations and work practice standards in this subpart by the compliance date. To change any of the information submitted in the report, you must notify us 60 days before the planned change is to be implemented.

(1) Requests for approval to set operating limits for parameters other than those specified in §§ 63.2455 through 63.2485 and referenced therein. Alternatively, you may make these requests according to § 63.8(f).
(2) Descriptions of daily or per batch demonstrations to verify that control devices subject to § 63.2460(c)(5) are operating as designed.

(3) A description of the test conditions, data, calculations, and other information used to establish operating limits according to § 63.2460(c)(3).

(4) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions in accordance with § 63.1257(d)(2)(ii). This requirement does not apply to calculations of hydrogen halide and halogen HAP emissions as specified in § 63.2465(b), to determinations that the total HAP concentration is less than 50 ppmv, or if you use previous test data to establish the uncontrolled emissions.

(5) The pollution prevention demonstration plan required in § 63.2495(c)(1), if you are complying with the pollution prevention alternative.

(6) Documentation of the practices that you will implement to minimize HAP emissions from streams that contain energetics and organic peroxides, and rationale for why meeting the emission limit specified in tables 1 through 7 to this subpart would create an undue safety hazard.

(7) For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the PM concentration exceeds the set point and activates the alarm.

(d) Notification of compliance status report. You must submit a notification of compliance status report according to the schedule in paragraph (d)(1) of this section, and the notification of compliance status report must contain the information specified in paragraph (d)(2) of this section.

(1) You must submit the notification of compliance status report no later than 150 days after the applicable compliance date specified in § 63.2445.

(2) The notification of compliance status report must include the information in paragraphs (d)(2)(i) through (ix) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to §§ 63.2455 through 63.2485. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) All operating scenarios.

(v) Descriptions of worst-case operating and/or testing conditions for control devices.

(vi) Identification of parts of the affected source subject to overlapping requirements described in § 63.2535 and the authority under which you will comply.

(vii) The information specified in § 63.1039(a)(1) through (3) for each process subject to the work practice standards for equipment leaks in Table 6 to this subpart.

(viii) Identify storage tanks for which you are complying with the vapor balancing alternative in § 63.2470(e).
(ix) Records as specified in § 63.2535(l)(1) through (3) of process units used to create a PUG and calculations of the initial primary product of the PUG.

(e) Compliance report. The compliance report must contain the information specified in paragraphs (e)(1) through (10) 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) For each SSM during which excess emissions occur, the compliance report must include records that the procedures specified in your startup, shutdown, and malfunction plan (SSMP) were followed or documentation of actions taken that are not consistent with the SSMP, and include a brief description of each malfunction.

(5) The compliance report must contain the information on deviations, as defined in § 63.2550, according to paragraphs (e)(5)(i), (ii), (iii), and (iv) of this section.

(i) If there are no deviations from any emission limit, operating limit or work practice standard specified in this subpart, include a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(ii) For each deviation from an emission limit, operating limit, and work practice standard that occurs at an affected source where you are not using a continuous monitoring system (CMS) to comply with the emission limit or work practice standard in this subpart, you must include the information in paragraphs (e)(5)(ii)(A) through (C) of this section. This includes periods of SSM.

(A) The total operating time of the affected source during the reporting period.

(B) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(C) Operating logs of processes with batch vents from batch operations for the day(s) during which the deviation occurred, except operating logs are not required for deviations of the work practice standards for equipment leaks.

(iii) For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, you must include the information in paragraphs (e)(5)(iii)(A) through (L) of this section. This includes periods of SSM.

(A) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(B) The date, time, and duration that each CEMS was out-of-control, including the information in § 63.8(c)(8).

(C) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(D) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total operating time of the affected source during that reporting period.

(E) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(F) 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 affected source during that reporting period.
(G) An identification of each HAP that is known to be in the emission stream.

(H) A brief description of the process units.

(I) A brief description of the CMS.

(J) The date of the latest CMS certification or audit.

(K) Operating logs of processes with batch vents from batch operations for each day(s) during which the deviation occurred.

(L) The operating day or operating block average values of monitored parameters for each day(s) during which the deviation occurred.

(iv) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive HAP is the only HAP and usage is less than 10,000 lb/yr, the total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, or total uncontrolled hydrogen halide and halogen HAP emissions from all batch process vents and continuous process vents in a process are less than 1,000 lb/yr, include the records associated with each calculation required by § 63.2525(e) that exceeds an applicable HAP usage or emissions threshold.

(6) If you use a CEMS, and there were no periods during which it was out-of-control as specified in § 63.8(c)(7), include a statement that there were no periods during which the CEMS was out-of-control during the reporting period.

(7) Include each new operating scenario which has been operated since the time period covered by the last compliance report and has not been submitted in the notification of compliance status report or a previous compliance report. For each new operating scenario, you must provide verification that the operating conditions for any associated control or treatment device have not been exceeded and that any required calculations and engineering analyses have been performed. For the purposes of this paragraph, a revised operating scenario for an existing process is considered to be a new operating scenario.

(8) Records of process units added to a PUG as specified in § 63.2525(i)(4) and records of primary product redeterminations as specified in § 63.2525(i)(5).

(9) Applicable records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part and subpart F of 40 CFR part 65.

(10) **Notification of process change.** (i) Except as specified in paragraph (e)(10)(ii) of this section, whenever you make a process change, or change any of the information submitted in the notification of compliance status report or a previous compliance report, that is not within the scope of an existing operating scenario, you must document the change in your compliance report. A process change does not include moving within a range of conditions identified in the standard batch, and a nonstandard batch does not constitute a process change. The notification must include all of the information in paragraphs (e)(10)(i)(A) through (C) of this section.

(A) A description of the process change.

(B) Revisions to any of the information reported in the original notification of compliance status report under paragraph (d) of this section.

(C) Information required by the notification of compliance status report under paragraph (d) of this section for changes involving the addition of processes or equipment at the affected source.

(ii) You must submit a report 60 days before the scheduled implementation date of any of the changes identified in paragraph (e)(10)(ii)(A), (B), or (C) of this section.

(A) Any change to the information contained in the precompliance report.
(B) A change in the status of a control device from small to large.

(C) A change from Group 2 to Group 1 for any emission point except for batch process vents that meet the conditions specified in § 63.2460(b)(6)(i).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40336, July 14, 2006]

§ 63.2525 What records must I keep?

You must keep the records specified in paragraphs (a) through (k) of this section.

(a) Each applicable record required by subpart A of this part 63 and in referenced subparts F, G, SS, UU, WW, and GGG of this part 63 and in referenced subpart F of 40 CFR part 65.

(b) Records of each operating scenario as specified in paragraphs (b)(1) through (8) of this section.

(1) A description of the process and the type of process equipment used.

(2) An identification of related process vents, including their associated emissions episodes if not complying with the alternative standard in § 63.2505; wastewater point of determination (POD); storage tanks; and transfer racks.

(3) The applicable control requirements of this subpart, including the level of required control, and for vents, the level of control for each vent.

(4) The control device or treatment process used, as applicable, including a description of operating and/or testing conditions for any associated control device.

(5) The process vents, wastewater POD, transfer racks, and storage tanks (including those from other processes) that are simultaneously routed to the control device or treatment process(s).

(6) The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control device or treatment process.

(7) Calculations and engineering analyses required to demonstrate compliance.

(8) For reporting purposes, a change to any of these elements not previously reported, except for paragraph (b)(5) of this section, constitutes a new operating scenario.

(c) A schedule or log of operating scenarios for processes with batch vents from batch operations updated each time a different operating scenario is put into effect.

(d) The information specified in paragraphs (d)(1) and (2) of this section for Group 1 batch process vents in compliance with a percent reduction emission limit in Table 2 to this subpart if some of the vents are controlled to less than the percent reduction requirement.

(1) Records of whether each batch operated was considered a standard batch.

(2) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(e) The information specified in paragraph (e)(2), (3), or (4) of this section, as applicable, for each process with Group 2 batch process vents or uncontrolled hydrogen halide and halogen HAP emissions from the sum of all batch and continuous process vents less than 1,000 lb/yr. No records are required for situations described in paragraph (e)(1) of this section.
(1) No records are required if you documented in your notification of compliance status report that the MCPU meets any of the situations described in paragraph (e)(1)(i), (ii), or (iii) of this section.

(i) The MCPU does not process, use, or generate HAP.

(ii) You control the Group 2 batch process vents using a flare that meets the requirements of § 63.987.

(iii) You control the Group 2 batch process vents using a control device for which your determination of worst case for initial compliance includes the contribution of all Group 2 batch process vents.

(2) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive organic HAP is the only HAP and usage is less than 10,000 lb/yr, as specified in § 63.2460(b)(7), you must keep records of the amount of HAP material used, and calculate the daily rolling annual sum of the amount used no less frequently than monthly. If a record indicates usage exceeds 10,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only usage if the usage during the year is less than 10,000 lb.

(3) If you documented in your notification of compliance status report that total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, then you must keep records of the number of batches operated and calculate a daily rolling annual sum of batches operated no less frequently than monthly. If the number of batches operated results in organic HAP emissions that exceed 1,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only the number of batches if the number of batches operated during the year results in less than 1,000 lb of organic HAP emissions.

(4) If you meet none of the conditions specified in paragraphs (e)(1) through (3) of this section, you must keep records of the information specified in paragraphs (e)(4)(i) through (iv) of this section.

(i) A record of the day each batch was completed and/or the operating hours per day for continuous operations with hydrogen halide and halogen emissions.

(ii) A record of whether each batch operated was considered a standard batch.

(iii) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(iv) Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly.

(f) A record of each time a safety device is opened to avoid unsafe conditions in accordance with § 63.2450(s).

(g) Records of the results of each CPMS calibration check and the maintenance performed, as specified in § 63.2450(k)(1).

(h) For each CEMS, you must keep records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(i) For each PUG, you must keep records specified in paragraphs (i)(1) through (5) of this section.

(1) Descriptions of the MCPU and other process units in the initial PUG required by § 63.2535(l)(1)(v).

(2) Rationale for including each MCPU and other process unit in the initial PUG (i.e., identify the overlapping equipment between process units) required by § 63.2535(l)(1)(v).

(3) Calculations used to determine the primary product for the initial PUG required by § 63.2535(l)(2)(iv).
(4) Descriptions of process units added to the PUG after the creation date and rationale for including the additional process units in the PUG as required by § 63.2535(l)(1)(v).

(5) The calculation of each primary product redetermination required by § 63.2535(l)(2)(iv).

(j) In the SSMP required by § 63.6(e)(3), you are not required to include Group 2 emission points, unless those emission points are used in an emissions average. For equipment leaks, the SSMP requirement is limited to control devices and is optional for other equipment.

(k) For each bag leak detector used to monitor PM HAP emissions from a fabric filter, maintain records of any bag leak detection alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40337, July 14, 2006]

Other Requirements and Information

§ 63.2535 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

For any equipment, emission stream, or wastewater stream subject to the provisions of both this subpart and another rule, you may elect to comply only with the provisions as specified in paragraphs (a) through (l) of this section. You also must identify the subject equipment, emission stream, or wastewater stream, and the provisions with which you will comply, in your notification of compliance status report required by § 63.2520(d).

(a) Compliance with other subparts of this part 63. (1) If you have an MPCU that includes a batch process vent that also is part of a CMPU as defined in subparts F and G of this part 63, you must comply with the emission limits; operating limits; work practice standards; and the compliance, monitoring, reporting, and recordkeeping requirements for batch process vents in this subpart, and you must continue to comply with the requirements in subparts F, G, and H of this part 63 that are applicable to the CMPU and associated equipment.

(2) After the compliance dates specified in § 63.2445, at an offsite reloading or cleaning facility subject to § 63.1253(f), as referenced from § 63.2470(e), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the monitoring, recordkeeping, and reporting provisions of § 63.1253(f)(7)(ii) or § 63.1253(f)(7)(iii). You must identify in your notification of compliance status report required by § 63.2520(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) Compliance with 40 CFR parts 264 and 265, subparts AA, BB, and/or CC. (1) After the compliance dates specified in § 63.2445, if a control device that you use to comply with this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC; or the monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC; and you comply with the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply to the device if your facility had final-permitted status, you may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart; or with the monitoring and recordkeeping requirements in 40 CFR part 264 or 265 and the reporting requirements in 40 CFR part 264, as described in this paragraph (b)(1), which constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If you elect to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, you must report the information described in § 63.2520(e).

(2) After the compliance dates specified in § 63.2445, if you have an affected source with equipment that is also subject to 40 CFR part 264, subpart BB, or to 40 CFR part 265, subpart BB, then compliance with the recordkeeping and reporting requirements of 40 CFR parts 264 and/or 265 may be used to comply with the recordkeeping and reporting requirements of this subpart, to the extent that the requirements of 40 CFR parts 264 and/or 265 duplicate the requirements of this subpart.

(c) Compliance with 40 CFR part 60, subpart Kb and 40 CFR part 61, subpart Y. After the compliance dates specified in § 63.2445, you are in compliance with the provisions of this subpart FFFF for any storage tank that is assigned to
an MCPU and that is both controlled with a floating roof and in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y. You are in compliance with this subpart FFFF if you have a storage tank with a fixed roof, closed-vent system, and control device in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart FFFF. Alternatively, if a storage tank assigned to an MCPU is subject to control under 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, you may elect to comply only with the requirements for Group 1 storage tanks in this subpart FFFF.

(d) Compliance with subpart I, GGG, or MMM of this part 63. After the compliance dates specified in § 63.2445, if you have an affected source with equipment subject to subpart I, GGG, or MMM of this part 63, you may elect to comply with the provisions of subpart H, GGG, or MMM of this part 63, respectively, for all such equipment.

(e) Compliance with subpart GGG of this part 63 for wastewater. After the compliance dates specified in § 63.2445, if you have an affected source subject to this subpart and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in § 63.1256, you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams.

(f) Compliance with subpart MMM of this part 63 for wastewater. After the compliance dates specified in § 63.2445, if you have an affected source subject to this subpart, and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in § 63.1362(d), you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams (except that the 99 percent reduction requirement for streams subject to § 63.1362(d)(10) still applies).

(g) Compliance with other regulations for wastewater. After the compliance dates specified in § 63.2445, if you have a Group 1 wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272, you may elect to determine whether this subpart or 40 CFR parts 260 through 272 contain the more stringent control requirements (e.g., design, operation, and inspection requirements for waste management units; numerical treatment standards; etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements. Compliance with provisions of 40 CFR parts 260 through 272 that are determined to be more stringent than the requirements of this subpart constitute compliance with this subpart. For example, provisions of 40 CFR parts 260 through 272 for treatment units that meet the conditions specified in § 63.138(h) constitute compliance with this subpart. You must identify in the notification of compliance status report required by § 63.2520(d) the information and procedures that you used to make any stringency determinations.

(h) Compliance with 40 CFR part 60, subpart DDD, III, NNN, or RRR. After the compliance dates specified in § 63.2445, if you have equipment subject to the provisions of this subpart that are also subject to the provisions of 40 CFR parts 60, subpart DDD, III, NNN, or RRR, you may elect to apply this subpart to all such equipment in the MCPU. If an MCPU subject to the provisions of this subpart has equipment to which this subpart does not apply but which is subject to a standard in 40 CFR part 60, subpart DDD, III, NNN, or RRR, you may elect to comply with the requirements for Group 1 process vents in this subpart for such equipment. If you elect any of these methods of compliance, you must consider all total organic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (h), will constitute compliance with 40 CFR part 60, subpart DDD, III, NNN, or RRR, as applicable.

(i) Compliance with 40 CFR part 61, subpart BB. (1) After the compliance dates specified in § 63.2445, a Group 1 transfer rack, as defined in § 63.2550, that is also subject to the provisions of 40 CFR part 61, subpart BB, you are required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.2445, a Group 2 transfer rack, as defined in § 63.2550, that is also subject to the provisions of 40 CFR part 61, subpart BB, is required to comply with the provisions of either paragraph (i)(2)(i) or (ii) of this section.

(ii) If the transfer rack is subject to the control requirements specified in § 61.302 of 40 CFR part 61, subpart BB, then you may elect to comply with either the requirements of 40 CFR part 61, subpart BB, or the requirements for Group 1 transfer racks under this subpart FFFF.

(iii) If the transfer rack is subject only to reporting and recordkeeping requirements under 40 CFR part 61, subpart BB, then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for.
Group 2 transfer racks, and you are exempt from the reporting and recordkeeping requirements in 40 CFR part 61, subpart BB.

(j) **Compliance with 40 CFR part 61, subpart FF.** After the compliance date specified in §63.2445, for a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR 61.342(c) through (h), and is not exempt under 40 CFR 61.342(c)(2) or (3), you may elect to comply only with the requirements for Group 1 wastewater streams in this subpart FFFF. If a Group 2 wastewater stream is exempted from 40 CFR 61.342(c)(1) under 40 CFR 61.342(c)(2) or (3), then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2 wastewater streams, and you are exempt from the requirements in 40 CFR part 61, subpart FF.

(k) **Compliance with 40 CFR part 60, subpart VV, and 40 CFR part 61, subpart V.** After the compliance date specified in §63.2445, if you have an affected source with equipment that is also subject to the requirements of 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, you may elect to apply this subpart to all such equipment. After the compliance date specified in §63.2445, if you have an affected source with equipment to which this subpart does not apply, but which is subject to the requirements of 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, you may elect to apply this subpart to all such equipment. If you elect either of these methods of compliance, you must consider all total organic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (k), will constitute compliance with 40 CFR part 60, subpart VV and 40 CFR part 61, subpart V, as applicable.

(l) **Applicability of process units included in a process unit group.** You may elect to develop and comply with the requirements for PUG in accordance with paragraphs (l)(1) through (3) of this section.

(1) **Procedures to create process unit groups.** Develop and document changes in a PUG in accordance with the procedures specified in paragraphs (l)(1)(i) through (v) of this section.

(i) Initially, identify an MCPF that is created from nondedicated equipment that will operate on or after November 10, 2003 and identify all processing equipment that is part of this MCPF, based on descriptions in operating scenarios.

(ii) Add to the group any other nondedicated MCPF and other nondedicated process units expected to be operated in the 5 years after the date specified in paragraph (l)(1)(i) of this section, provided they satisfy the criteria specified in paragraphs (l)(1)(ii)(A) through (C) of this section. Also identify all of the processing equipment used for each process unit based on information from operating scenarios and other applicable documentation.

(A) Each process unit that is added to a group must have some processing equipment that is also part of one or more process units in the group.

(B) No process unit may be part of more than one PUG.

(C) The processing equipment used to satisfy the requirement of paragraph (l)(1)(ii)(A) of this section may not be a storage tank or control device.

(iii) The initial PUG consists of all of the processing equipment for the process units identified in paragraphs (l)(1)(i) and (ii) of this section. As an alternative to the procedures specified in paragraphs (l)(1)(i) and (ii) of this section, you may use a PUG that was developed in accordance with §63.1360(h) as your initial PUG.

(iv) Add process units developed in the future in accordance with the conditions specified in paragraphs (l)(1)(ii)(A) and (B) of this section.

(v) Maintain records that describe the process units in the initial PUG, the procedure used to create the PUG, and subsequent changes to each PUG as specified in §63.2525(i). Submit the records in reports as specified in §63.2520(d)(2)(ix) and (e)(8).

(2) **Determine primary product.** You must determine the primary product of each PUG created in paragraph (l)(1) of this section according to the procedures specified in paragraphs (l)(2)(i) through (iv) of this section.
(i) The primary product is the type of product (e.g., organic chemicals subject to §63.2435(b)(1), pharmaceutical products subject to §63.1250, or pesticide active ingredients subject to §63.1360) expected to be produced for the greatest operating time in the 5-year period specified in paragraph (l)(1)(ii) of this section.

(ii) If the PUG produces multiple types of products equally based on operating time, then the primary product is the type of product with the greatest production on a mass basis over the 5-year period specified in paragraph (l)(1)(ii) of this section.

(iii) At a minimum, you must redetermine the primary product of the PUG following the procedure specified in paragraphs (l)(2)(i) and (ii) of this section every 5 years.

(iv) You must record the calculation of the initial primary product determination as specified in §63.2525(i)(3) and report the results in the notification of compliance status report as specified in §63.2520(d)(8)(ix). You must record the calculation of each redetermination of the primary product as specified in §63.2525(i)(5) and report the calculation in a compliance report submitted no later than the report covering the period for the end of the 5th year after cessation of production of the previous primary product, as specified in §63.2520(e)(8).

(3) Compliance requirements. (i) If the primary product of the PUG is determined according to paragraph (l)(2) of this section to be material described in §63.2435(b)(1), then you must comply with this subpart for each MCPU in the PUG. You may also elect to comply with this subpart for all other process units in the PUG, which constitutes compliance with other part 63 rules.

(ii) If the primary product of the PUG is determined according to paragraph (l)(2) of this section to be material not described in §63.2435(b)(1), then you must comply with paragraph (l)(3)(ii)(A), (B), or (C) of this section, as applicable.

(A) If the primary product is subject to subpart GGG of this part 63, then comply with the requirements of subpart GGG for each MCPU in the PUG.

(B) If the primary product is subject to subpart MMM of this part 63, then comply with the requirements of subpart MMM for each MCPU in the PUG.

(C) If the primary product is subject to any subpart in this part 63 other than subpart GGG or subpart MMM, then comply with the requirements of this subpart for each MCPU in the PUG.

(iii) The requirements for new and reconstructed sources in the alternative subpart apply to all MCPU in the PUG if and only if the affected source under the alternative subpart meets the requirements for construction or reconstruction.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40337, July 14, 2006]

§ 63.2540 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.2545 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (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 also has the authority to implement and enforce this subpart. You should contact your U.S. 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 contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of U.S. EPA and are not delegated to the State, local, or tribal agency.
(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.2450(a) 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.

§ 63.2550 What definitions apply to this subpart?

(a) For an affected source complying with the requirements in subpart SS of this part 63, the terms used in this subpart and in subpart SS of this part 63 have the meaning given them in § 63.981, except as specified in §§ 63.2450(k)(2) and (m), 63.2470(c)(2), 63.2475(b), and paragraph (i) of this section.

(b) For an affected source complying with the requirements in 40 CFR part 65, subpart F, the terms used in this subpart and in 40 CFR part 65, subpart F have the meaning given to them in § 65.2.

(c) For an affected source complying with the requirements in subpart UU of this part 63, the terms used in this subpart and in subpart UU of this part 63 have the meaning given them in § 63.1020.

(d) For an affected source complying with the requirements in subpart WW of this part 63, the terms used in this subpart and subpart WW of this part 63 have the meaning given them in § 63.1061, except as specified in §§ 63.2450(m), 63.2470(c)(2), and paragraph (i) of this section.

(e) For an affected source complying with the requirements in §§ 63.132 through 63.149, the terms used in this subpart and §§ 63.132 through 63.149 have the meaning given them in §§ 63.101 and 63.111, except as specified in § 63.2450(m) and paragraph (i) of this section.

(f) For an affected source complying with the requirements in §§ 63.104 and 63.105, the terms used in this subpart and in §§ 63.104 and 63.105 of this subpart have the meaning given them in § 63.101, except as specified in §§ 63.2450(m), 63.2490(b), and paragraph (i) of this section.

(g) For an affected source complying with requirements in §§ 63.1253, 63.1257, and 63.1258, the terms used in this subpart and in §§ 63.1253, 63.1257, and 63.1258 have the meaning given them in § 63.1251, except as specified in § 63.2450(m) and paragraph (i) of this section.

(h) For an affected source complying with the requirements in 40 CFR part 65, subpart F, the terms used in this subpart and in 40 CFR part 65, subpart F, have the meaning given them in 40 CFR 65.2.

(i) All other terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, and in this paragraph (i). If a term is defined in § 63.2, § 63.101, § 63.111, § 63.981, § 63.1020, § 63.1061, § 63.1251, or § 65.2 and in this paragraph (i), the definition in this paragraph (i) applies for the purposes of this subpart.

Ancillary activities means boilers and incinerators (not used to comply with the emission limits in Tables 1 through 7 to this subpart), chillers and refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or isolated intermediate.

Batch operation means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Batch process vent means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of batch process vents include, but are not limited to, vents on
condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

(1) Continuous process vents;

(2) Bottoms receivers;

(3) Surge control vessels;

(4) Gaseous streams routed to a fuel gas system(s);

(5) Vents on storage tanks, wastewater emission sources, or pieces of equipment subject to the emission limits and work practice standards in Tables 4, 6, and 7 to this subpart;

(6) Drums, pails, and totes;

(7) Flexible elephant trunk systems that draw ambient air (i.e., the system is not ducted, piped, or otherwise connected to the unit operations) away from operators when vessels are opened; and

(8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. A vent from a unit operation, or a vent from multiple unit operations that are manifolded together, from which total uncontrolled HAP emissions are less than 200 lb/yr is not a batch process vent; emissions for all emission episodes associated with the unit operation(s) must be included in the determination of the total mass emitted. The HAP concentration or mass emission rate may be determined using any of the following: process knowledge that no HAP are present in the emission stream; an engineering assessment as discussed in § 63.1257(d)(2)(ii), except that you do not need to demonstrate that the equations in § 63.1257(d)(2)(i) do not apply, and the precompliance reporting requirements specified in § 63.1257(d)(2)(ii)(E) do not apply for the purposes of this demonstration; equations specified in § 63.1257(d)(2)(i), as applicable; test data using Method 18 of 40 CFR part 60, appendix A; or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process vent stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment processes such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Bottoms receiver means a tank that collects bottoms from continuous distillation before the stream is sent for storage or for further downstream processing.

Construction means the onsite fabrication, erection, or installation of an affected source or MCPU. Addition of new equipment to an MCPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or MCPU if it satisfies the definition of reconstruction in § 63.2.

Consumption means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

Continuous operation means any operation that is not a batch operation.

Continuous process vent means the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in § 63.107(b) through (h), or meets the criteria specified in § 63.107(i), except:

(1) The reference in § 63.107(e) to a chemical manufacturing process unit that meets the criteria of § 63.100(b) means an MCPU that meets the criteria of § 63.2435(b);
(2) The reference in § 63.107(h)(4) to § 63.113 means Table 1 to this subpart;

(3) The references in § 63.107(h)(7) to §§ 63.119 and 63.126 mean tables 4 and 5 to this subpart; and

(4) For the purposes of § 63.2455, all references to the characteristics of a process vent (e.g., flowrate, total HAP concentration, or TRE index value) mean the characteristics of the gas stream.

(5) The reference to “total organic HAP” in § 63.107(d) means “total HAP” for the purposes of this subpart FFFF.

(6) The references to an “air oxidation reactor, distillation unit, or reactor” in § 63.107 mean any continuous operation for the purposes of this subpart.

(7) A separate determination is required for the emissions from each MCPU, even if emission streams from two or more MCPU are combined prior to discharge to the atmosphere or to a control device.

Dedicated MCPU means an MCPU that consists of equipment that is used exclusively for one process, except that storage tanks assigned to the process according to the procedures in § 63.2435(d) also may be shared by other processes.

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 limit, operating limit, or work practice standard; or

(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 limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission point means each continuous process vent, batch process vent, storage tank, transfer rack, and wastewater stream.

Energetics means propellants, explosives, and pyrotechnics and include materials listed at 49 CFR 172.101 as Hazard Class I Hazardous Materials, Divisions 1.1 through 1.6.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service; and any control devices or systems used to comply with Table 6 to this subpart.

Excess emissions means emissions greater than those allowed by the emission limit.

Family of materials means a grouping of materials with the same basic composition or the same basic end use or functionality produced using the same basic feedstocks with essentially identical HAP emission profiles (primary constituent and relative magnitude on a pound per product basis) and manufacturing equipment configuration. Examples of families of materials include multiple grades of the same product or different variations of a product (e.g., blue, black, and red resins).

Group 1 batch process vent means each of the batch process vents in a process for which the collective uncontrolled organic HAP emissions from all of the batch process vents are greater than or equal to 10,000 lb/yr at an existing source or greater than or equal to 3,000 lb/yr at a new source.

Group 2 batch process vent means each batch process vent that does not meet the definition of Group 1 batch process vent.
Group 1 continuous process vent means a continuous process vent for which the flow rate is greater than or equal to 0.005 standard cubic meter per minute, and the total resource effectiveness index value, calculated according to § 63.2455(b), is less than or equal to 1.9 at an existing source and less than or equal to 5.0 at a new source.

Group 2 continuous process vent means a continuous process vent that does not meet the definition of a Group 1 continuous process vent.

Group 1 storage tank means a storage tank with a capacity greater than or equal to 10,000 gal storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals at an existing source or greater than or equal to 0.69 kilopascals at a new source.

Group 2 storage tank means a storage tank that does not meet the definition of a Group 1 storage tank.

Group 1 transfer rack means a transfer rack that loads more than 0.65 million liters/year of liquids that contain organic HAP with a rack-weighted average partial pressure, as defined in § 63.111, greater than or equal to 1.5 pound per square inch absolute.

Group 2 transfer rack means a transfer rack that does not meet the definition of a Group 1 transfer rack.

Group 1 wastewater stream means a wastewater stream consisting of process wastewater at an existing or new source that meets the criteria for Group 1 status in § 63.2485(c) for compounds in Tables 8 and 9 to this subpart and/or a wastewater stream consisting of process wastewater at a new source that meets the criteria for Group 1 status in § 63.132(d) for compounds in Table 8 to subpart G of this part 63.

Group 2 wastewater stream means any process wastewater stream that does not meet the definition of a Group 1 wastewater stream.

Halogen atoms mean chlorine and fluorine.

Halogenated vent stream means a vent stream determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater determined by the procedures presented in § 63.115(d)(2)(v).

HAP metals means the metal portion of antimony compounds, arsenic compounds, beryllium compounds, cadmium compounds, chromium compounds, cobalt compounds, lead compounds, manganese compounds, mercury compounds, nickel compounds, and selenium compounds.

Hydrogen halide and halogen HAP means hydrogen chloride, hydrogen fluoride, and chlorine.

In organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of § 63.180(d). The provisions of § 63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

Isolated intermediate means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage. The storage equipment is part of the MCPU that produces the isolated intermediate and is not assigned as specified in § 63.2435(d).

Large control device means a control device that controls total HAP emissions of greater than or equal to 10 tpy, before control.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the MCPU into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of pumps into an individual drain system, and draining of
portions of the MCPU for repair. Wastewater from routine cleaning operations occurring as part of batch operations is not considered maintenance wastewater.

*Maximum true vapor pressure* has the meaning given in § 63.111, except that it applies to all HAP rather than only organic HAP.

*Miscellaneous organic chemical manufacturing process* means all equipment which collectively function to produce a product or isolated intermediate that are materials described in § 63.2435(b). For the purposes of this subpart, process includes any, all or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

1. Routine cleaning operations conducted as part of batch operations are considered part of the process;

2. Each nondedicated solvent recovery operation is considered a single process;

3. Each nondedicated formulation operation is considered a single process that is used to formulate numerous materials and/or products;

4. Quality assurance/quality control laboratories are not considered part of any process; and

5. Ancillary activities are not considered a process or part of any process.

6. The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the extruder, die plate, or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual HAP monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

*Nonstandard batch* means a batch process that is operated outside of the range of operating conditions that are documented in an existing operating scenario but is still a reasonably anticipated event. For example, a nonstandard batch occurs when additional processing or processing at different operating conditions must be conducted to produce a product that is normally produced under the conditions described by the standard batch. A nonstandard batch may be necessary as a result of a malfunction, but it is not itself a malfunction.

*On-site or on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source or MCPU to which the records pertain, or storage in central files elsewhere at the major source.

*Operating scenario* means, for the purposes of reporting and recordkeeping, any specific operation of an MCPU as described by records specified in § 63.2525(b).

*Organic group* means structures that contain primarily carbon, hydrogen, and oxygen atoms.

*Organic peroxides* means organic compounds containing the bivalent -o-o-structure which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

*Point of determination* means each point where process wastewater exits the MCPU or control device.
NOTE TO DEFINITION FOR POINT OF DETERMINATION: The regulation allows determination of the characteristics of a wastewater stream: At the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of soluble HAP and partially soluble HAP compounds as determined according to procedures in § 63.144 of subpart G in this part 63. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

**Predominant HAP** means as used in calibrating an analyzer, the single organic HAP that constitutes the largest percentage of the total organic HAP in the analyzed gas stream, by volume.

**Process condenser** means a condenser whose primary purpose is to recover material as an integral part of an MCPU. All condensers recovering condensate from an MCPU at or above the boiling point or all condensers in line prior to a vacuum source are considered process condensers. Typically, a primary condenser or condensers in series are considered to be integral to the MCPU if they are capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse. This definition does not apply to a condenser that is used to remove materials that would hinder performance of a downstream recovery device as follows:

1. To remove water vapor that would cause icing in a downstream condenser, or
2. To remove water vapor that would negatively affect the adsorption capacity of carbon in a downstream carbon adsorber, or
3. To remove high molecular weight organic compounds or other organic compounds that would be difficult to remove during regeneration of a downstream carbon adsorber.

**Process tank** means a tank or vessel that is used within a process to collect material discharged from a feedstock storage tank or equipment within the process before the material is transferred to other equipment within the process or a product storage tank. A process tank has emissions that are related to the characteristics of the batch cycle, and it does not accumulate product over multiple batches. Surge control vessels and bottoms receivers are not process tanks.

**Production-indexed HAP consumption factor (HAP factor)** means the result of dividing the annual consumption of total HAP by the annual production rate, per process.

**Production-indexed VOC consumption factor (VOC factor)** means the result of dividing the annual consumption of total VOC by the annual production rate, per process.

**Quaternary ammonium compounds** means a type of organic nitrogen compound in which the molecular structure includes a central nitrogen atom joined to four organic groups as well as an acid radical of some sort.

**Recovery device** means an individual unit of equipment used for the purpose of recovering chemicals from process vent streams and from wastewater streams for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. For the purposes of meeting requirements in table 2 to this subpart, the recovery device must not be a process condenser and must recover chemicals to be reused in a process on site. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device for a wastewater stream, a decanter and any other equipment based on the operating principle of gravity separation must receive only multi-phase liquid streams.

**Responsible official** means responsible official as defined in 40 CFR 70.2.

**Safety device** means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust
the pressure in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

_Shutdown_ means the cessation of operation of a continuous operation for any purpose. Shutdown also means the cessation of a batch operation, or any related individual piece of equipment required or used to comply with this subpart, if the steps taken to cease operation differ from those described in a standard batch or nonstandard batch. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of batch operations at the end of a campaign or between batches within a campaign when the steps taken are routine operations.

_Small control device_ means a control device that controls total HAP emissions of less than 10 tpy, before control.

_Standard batch_ means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

_Startup_ means the setting in operation of a continuous operation for any purpose; the first time a new or reconstructed batch operation begins production; for new equipment added, including equipment required or used to comply with this subpart, the first time the equipment is put into operation; or for the introduction of a new product/process, the first time the product or process is run in equipment. For batch operations, startup applies to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past if the steps taken to begin production differ from those specified in a standard batch or nonstandard batch. Startup does not apply when the equipment is put into operation as part of a batch within a campaign when the steps taken are routine operations.

_Storage tank_ means a tank or other vessel that is used to store liquids that contain organic HAP and/or hydrogen halide and halogen HAP and that has been assigned to an MCPU according to the procedures in § 63.2435(d). The following are not considered storage tanks for the purposes of this subpart:

1. Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
2. Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
3. Vessels storing organic liquids that contain HAP only as impurities;
4. Wastewater storage tanks;
5. Bottoms receivers;
6. Surge control vessels; and

_Supplemental gases_ means the air that is added to a vent stream after the vent stream leaves the unit operation. Air that is part of the vent stream as a result of the nature of the unit operation is not considered supplemental gases. Air required to operate combustion device burner(s) is not considered supplemental gases.

_Surge control vessel_ means feed drums, recycle drums, and intermediate vessels as part of any continuous operation. Surge control vessels are used within an MCPU when in-process storage, mixing, or management of flowrates or volumes is needed to introduce material into continuous operations.
Total organic compounds or (TOC) means the total gaseous organic compounds (minus methane and ethane) in a vent stream.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are assigned to an MCPU according to the procedures specified in § 63.2435(d) and are used to fill tank trucks and/or rail cars with organic liquids that contain one or more of the organic HAP listed in section 112(b) of the CAA of this subpart. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves.

Unit operation means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes, but is not limited to, reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is being operated as a recovery device, then it is part of a miscellaneous organic chemical manufacturing process and is not a waste management unit.

Wastewater means water that is discarded from an MCPU or control device through a POD and that contains either: an annual average concentration of compounds in tables 8 and 9 to this subpart of at least 5 ppmw and has an annual average flowrate of 0.02 liters per minute or greater; or an annual average concentration of compounds in tables 8 and 9 to this subpart of at least 10,000 ppmw at any flowrate. Wastewater means process wastewater or maintenance wastewater. The following are not considered wastewater for the purposes of this subpart:

1. Stormwater from segregated sewers;
2. Water from fire-fighting and deluge systems, including testing of such systems;
3. Spills;
4. Water from safety showers;
5. Samples of a size not greater than reasonably necessary for the method of analysis that is used;
6. Equipment leaks;
7. Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
8. Noncontact cooling water.

Wastewater stream means a stream that contains only wastewater as defined in this paragraph (i).

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 CAA.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40338, July 14, 2006]
Table 1 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Continuous Process Vents

As required in § 63.2455, you must meet each emission limit and work practice standard in the following table that applies to your continuous process vents:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>For which . . .</th>
<th>Then you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Group 1 continuous process vent</td>
<td>a. Not applicable</td>
<td>i. Reduce emissions of total organic HAP by ≥98 percent by weight or to an outlet process concentration ≤20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or ii. Reduce emissions of total organic HAP by venting through a closed vent system to a flare; or iii. Use a recovery device to maintain the TRE above 1.9 for an existing source or above 5.0 for a new source.</td>
</tr>
<tr>
<td>2. Halogenated Group 1 continuous process vent stream</td>
<td>a. You use a combustion control device to control organic HAP emissions</td>
<td>i. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥99 percent by weight, or to ≤0.45 kg/hr, or to ≤20 ppmv; or ii. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv.</td>
</tr>
<tr>
<td>3. Group 2 continuous process vent at an existing source</td>
<td>You use a recovery device to maintain the TRE level &gt;1.9 but ≤5.0</td>
<td>Comply with the requirements in § 63.993 and the requirements referenced therein.</td>
</tr>
<tr>
<td>4. Group 2 continuous process vent at a new source</td>
<td>You use a recovery device to maintain the TRE level &gt;5.0 but ≤8.0</td>
<td>Comply with the requirements in § 63.993 and the requirements referenced therein.</td>
</tr>
</tbody>
</table>

Table 2 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Batch Process Vents

As required in § 63.2460, you must meet each emission limit and work practice standard in the following table that applies to your batch process vents:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Then you must . . .</th>
<th>And you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Process with Group 1 batch process vents</td>
<td>a. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥98 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of control devices (except a flare); or b. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥95 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of recovery devices or a biofilter, except you may elect to comply with the requirements of subpart WW of this part for any process tank; or c. Reduce uncontrolled organic HAP emissions from one or more batch process vents within the process by venting through a closed-vent system to a flare or by venting through one or more closed-vent systems to any combination of control devices (excluding a flare) that reduce organic HAP to an outlet concentration ≤20 ppmv as TOC or total organic HAP.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td></td>
<td>For all other batch process vents within the process, reduce collective organic HAP emissions as specified in item 1.a and/or item 1.b of this table.</td>
<td></td>
</tr>
</tbody>
</table>
For each . . .

Then you must . . .

And you must . . .

2. Halogenated Group 1 batch process vent for which you use a combustion device to control organic HAP emissions

a. Use a halogen reduction device after the combustion control device; or

i. Reduce overall emissions of hydrogen halide and halogen HAP by ≥99 percent; or

ii. Reduce overall emissions of hydrogen halide and halogen HAP to ≤0.45 kg/hr; or

iii. Reduce overall emissions of hydrogen halide and halogen HAP to a concentration ≤20 ppmv.

b. Use a halogen reduction device before the combustion control device

Reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40339, July 14, 2006]

Table 3 to Subpart FFFF of Part 63—Emission Limits for Hydrogen Halide and Halogen HAP Emissions or HAP Metals Emissions From Process Vents

As required in § 63.2465, you must meet each emission limit in the following table that applies to your process vents that contain hydrogen halide and halogen HAP emissions or PM HAP emissions:

For each . . .

You must . . .

1. Process with uncontrolled hydrogen halide and halogen HAP emissions from process vents ≥1,000 lb/yr

a. Reduce collective hydrogen halide and halogen HAP emissions by ≥99 percent by weight or to an outlet concentration ≤20 ppmv by venting through one or more closed-vent systems to any combination of control devices, or

b. Reduce the halogen atom mass emission rate from the sum of all batch process vents and each individual continuous process vent to ≤0.45 kg/hr by venting through one or more closed-vent systems to a halogen reduction device.

2. Process at a new source with uncontrolled emissions from process vents ≥150 lb/yr of HAP metals

Reduce overall emissions of HAP metals by ≥97 percent by weight.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40340, July 14, 2006]

Table 4 to Subpart FFFF of Part 63—Emission Limits for Storage Tanks

As required in § 63.2470, you must meet each emission limit in the following table that applies to your storage tanks:

For each . . .

For which . . .

Then you must . . .

1. Group 1 storage tank

a. The maximum true vapor pressure of total HAP at the storage temperature is ≥76.6 kilopascals

i. Reduce total HAP emissions by ≥95 percent by weight or to ≤20 ppmv of TOC or organic HAP and ≤20 ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or

ii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or
### Table 5 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Transfer Racks

As required in § 63.2475, you must meet each emission limit and work practice standard in the following table that applies to your transfer racks:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must . . .</th>
</tr>
</thead>
</table>
| 1. Group 1 transfer rack | a. Reduce emissions of total organic HAP by ≥98 percent by weight or to an outlet concentration ≤20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or  
b. Reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare; or  
c. Reduce emissions of total organic HAP by venting emissions to a fuel gas system or process in accordance with § 63.982(d) and the requirements referenced therein; or  
d. Use a vapor balancing system designed and operated to collect organic HAP vapors displaced from tank trucks and railcars during loading and route the collected HAP vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected by a common header.  |
| 2. Halogenated Group 1 transfer rack vent stream for which you use a combustion device to control organic HAP emissions | a. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥99 percent by weight, to ≤0.45 kg/hr, or to ≤20 ppmv; or  
b. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv.  |

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]
Table 6 to Subpart FFFF of Part 63—Requirements for Equipment Leaks

As required in § 63.2480, you must meet each requirement in the following table that applies to your equipment leaks:

<table>
<thead>
<tr>
<th>For all . . .</th>
<th>And that is part of . . .</th>
<th>You must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Equipment that is in organic HAP service</td>
<td>a. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein, except as specified in § 63.2480(b) and (d); or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Comply with the requirements of subpart H of this part 63 and the requirements referenced therein, except as specified in § 63.2480(b) and (d); or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Comply with the requirements of 40 CFR part 65, subpart F and the requirements referenced therein, except as specified in § 63.2480(c) and (d).</td>
<td></td>
</tr>
<tr>
<td>2. Equipment that is in organic HAP service at a new source</td>
<td>a. Any MCPU</td>
<td>i. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein; or ii. Comply with the requirements of 40 CFR part 65, subpart F.</td>
</tr>
</tbody>
</table>

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]

Table 7 to Subpart FFFF of Part 63—Requirements for Wastewater Streams and Liquid Streams in Open Systems Within an MCPU

As required in § 63.2485, you must meet each requirement in the following table that applies to your wastewater streams and liquid streams in open systems within an MCPU:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Process wastewater stream</td>
<td>Comply with the requirements in §§ 63.132 through 63.148 and the requirements referenced therein, except as specified in § 63.2485.</td>
</tr>
<tr>
<td>2. Maintenance wastewater stream</td>
<td>Comply with the requirements in § 63.105 and the requirements referenced therein, except as specified in § 63.2485.</td>
</tr>
<tr>
<td>3. Liquid streams in an open system within an MCPU</td>
<td>Comply with the requirements in § 63.149 and the requirements referenced therein, except as specified in § 63.2485.</td>
</tr>
</tbody>
</table>

Table 8 to Subpart FFFF of Part 63—Partially Soluble Hazardous Air Pollutants

As specified in § 63.2485, the partially soluble HAP in wastewater that are subject to management and treatment requirements in this subpart FFFF are listed in the following table:

<table>
<thead>
<tr>
<th>Chemical name . . .</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1,1,1-Trichloroethane (methyl chloroform)</td>
<td>71556</td>
</tr>
<tr>
<td>2. 1,1,2,2-Tetrachloroethane</td>
<td>79345</td>
</tr>
<tr>
<td>3. 1,1,2-Trichloroethane</td>
<td>79005</td>
</tr>
<tr>
<td>4. 1,1-Dichloroethylene (vinylidene chloride)</td>
<td>75354</td>
</tr>
<tr>
<td>5. 1,2-Dibromoethane</td>
<td>106934</td>
</tr>
<tr>
<td>6. 1,2-Dichloroethane (ethylene dichloride)</td>
<td>107062</td>
</tr>
<tr>
<td>7. 1,2-Dichloropropane</td>
<td>78875</td>
</tr>
<tr>
<td>Chemical name</td>
<td>CAS No.</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>8. 1,3-Dichloropropene</td>
<td>542756</td>
</tr>
<tr>
<td>9. 2,4,5-Trichlorophenol</td>
<td>95954</td>
</tr>
<tr>
<td>10. 1,4-Dichlorobenzene</td>
<td>106467</td>
</tr>
<tr>
<td>11. 2-Nitropropane</td>
<td>79469</td>
</tr>
<tr>
<td>12. 4-Methyl-2-pentanone (MIBK)</td>
<td>108101</td>
</tr>
<tr>
<td>13. Acetaldehyde</td>
<td>75070</td>
</tr>
<tr>
<td>14. Acrolein</td>
<td>107028</td>
</tr>
<tr>
<td>15. Acrylonitrile</td>
<td>107131</td>
</tr>
<tr>
<td>16. Allyl chloride</td>
<td>107051</td>
</tr>
<tr>
<td>17. Benzene</td>
<td>71432</td>
</tr>
<tr>
<td>18. Benzyl chloride</td>
<td>100447</td>
</tr>
<tr>
<td>19. Biphenyl</td>
<td>92524</td>
</tr>
<tr>
<td>20. Bromoform (tribromomethane)</td>
<td>75252</td>
</tr>
<tr>
<td>21. Bromomethane</td>
<td>74839</td>
</tr>
<tr>
<td>22. Butadiene</td>
<td>106990</td>
</tr>
<tr>
<td>23. Carbon disulfide</td>
<td>75150</td>
</tr>
<tr>
<td>24. Chlorobenzene</td>
<td>108907</td>
</tr>
<tr>
<td>25. Chloroethane (ethyl chloride)</td>
<td>75003</td>
</tr>
<tr>
<td>26. Chloroform</td>
<td>67663</td>
</tr>
<tr>
<td>27. Chloromethane</td>
<td>74873</td>
</tr>
<tr>
<td>28. Chloroprene</td>
<td>126998</td>
</tr>
<tr>
<td>29. Cumene</td>
<td>98828</td>
</tr>
<tr>
<td>30. Dichloroethyl ether</td>
<td>111444</td>
</tr>
<tr>
<td>31. Dinitrophenol</td>
<td>51285</td>
</tr>
<tr>
<td>32. Epichlorohydrin</td>
<td>106898</td>
</tr>
<tr>
<td>33. Ethyl acrylate</td>
<td>140885</td>
</tr>
<tr>
<td>34. Ethylbenzene</td>
<td>100414</td>
</tr>
<tr>
<td>35. Ethylene oxide</td>
<td>75218</td>
</tr>
<tr>
<td>36. Ethyldiene dichloride</td>
<td>75343</td>
</tr>
<tr>
<td>37. Hexachlorobenzene</td>
<td>118741</td>
</tr>
<tr>
<td>38. Hexachlorobutadiene</td>
<td>87683</td>
</tr>
<tr>
<td>39. Hexachloroethane</td>
<td>67721</td>
</tr>
<tr>
<td>40. Methyl methacrylate</td>
<td>80626</td>
</tr>
<tr>
<td>41. Methyl-t-butyl ether</td>
<td>1634044</td>
</tr>
<tr>
<td>42. Methylene chloride</td>
<td>75092</td>
</tr>
<tr>
<td>43. N-hexane</td>
<td>110543</td>
</tr>
<tr>
<td>44. N,N-dimethylaniline</td>
<td>121697</td>
</tr>
<tr>
<td>45. Naphthalene</td>
<td>91203</td>
</tr>
<tr>
<td>46. Phosgene</td>
<td>75445</td>
</tr>
<tr>
<td>47. Propionaldehyde</td>
<td>123386</td>
</tr>
<tr>
<td>48. Propylene oxide</td>
<td>75569</td>
</tr>
<tr>
<td>49. Styrene</td>
<td>100425</td>
</tr>
<tr>
<td>50. Tetrachloroethylene (perchloroethylene)</td>
<td>127184</td>
</tr>
<tr>
<td>51. Tetrachloromethane (carbon tetrachloride)</td>
<td>56235</td>
</tr>
</tbody>
</table>
### Table 9 to Subpart FFFF of Part 63—Soluble Hazardous Air Pollutants

As specified in § 63.2485, the soluble HAP in wastewater that are subject to management and treatment requirements of this subpart FFFF are listed in the following table:

<table>
<thead>
<tr>
<th>Chemical name . . .</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acetonitrile</td>
<td>75058</td>
</tr>
<tr>
<td>2. Acetophenone</td>
<td>98862</td>
</tr>
<tr>
<td>3. Diethyl sulfate</td>
<td>64675</td>
</tr>
<tr>
<td>4. Dimethyl hydrazine (1,1)</td>
<td>57147</td>
</tr>
<tr>
<td>5. Dimethyl sulfate</td>
<td>77781</td>
</tr>
<tr>
<td>6. Dinitrotoluene (2,4)</td>
<td>121142</td>
</tr>
<tr>
<td>7. Dioxane (1,4)</td>
<td>123911</td>
</tr>
<tr>
<td>8. Ethylene glycol dimethyl ether</td>
<td>110714</td>
</tr>
<tr>
<td>9. Ethylene glycol monobutyl ether acetate</td>
<td>112072</td>
</tr>
<tr>
<td>10. Ethylene glycol monomethyl ether acetate</td>
<td>110496</td>
</tr>
<tr>
<td>11. Isophorone</td>
<td>78591</td>
</tr>
<tr>
<td>12. Methanol</td>
<td>67561</td>
</tr>
<tr>
<td>13. Nitrobenzene</td>
<td>98953</td>
</tr>
<tr>
<td>14. Toluene (o-)</td>
<td>95534</td>
</tr>
<tr>
<td>15. Triethylamine</td>
<td>121448</td>
</tr>
</tbody>
</table>


### Table 10 to Subpart FFFF of Part 63—Work Practice Standards for Heat Exchange Systems

As required in § 63.2490, you must meet each requirement in the following table that applies to your heat exchange systems:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat exchange system, as defined in § 63.101</td>
<td>Comply with the requirements of § 63.104 and the requirements referenced therein, except as specified in § 63.2490.</td>
</tr>
</tbody>
</table>

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38561, July 1, 2005]
Table 11 to Subpart FFFF of Part 63—Requirements for Reports

As required in § 63.2520(a) and (b), you must submit each report that applies to you on the schedule shown in the following table:

<table>
<thead>
<tr>
<th>You must submit a(n)</th>
<th>The report must contain . . .</th>
<th>You must submit the report . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Precompliance report</td>
<td>The information specified in § 63.2520(c)</td>
<td>At least 6 months prior to the compliance date; or for new sources, with the application for approval of construction or reconstruction.</td>
</tr>
<tr>
<td>2. Notification of compliance status report</td>
<td>The information specified in § 63.2520(d)</td>
<td>No later than 150 days after the compliance date specified in § 63.2445.</td>
</tr>
<tr>
<td>3. Compliance report</td>
<td>The information specified in § 63.2520(e)</td>
<td>Semiannually according to the requirements in § 63.2520(b).</td>
</tr>
</tbody>
</table>

Table 12 to Subpart FFFF of Part 63—Applicability of General Provisions to Subpart FFFF

As specified in § 63.2540, the parts of the General Provisions that apply to you are shown in the following table:

<table>
<thead>
<tr>
<th>Citation</th>
<th>Subject</th>
<th>Explanation</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.</td>
</tr>
<tr>
<td>§ 63.3</td>
<td>Units and Abbreviations</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.4</td>
<td>Prohibited Activities</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.5</td>
<td>Construction/Reconstruction</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(a)</td>
<td>Applicability</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(b)(1)-(4)</td>
<td>Compliance Dates for New and Reconstructed sources</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(b)(5)</td>
<td>Notification</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(b)(6)</td>
<td>[Reserved]</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>
</tr>
<tr>
<td>§ 63.6(c)(1)-(2)</td>
<td>Compliance Dates for Existing Sources</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(c)(3)-(4)</td>
<td>[Reserved]</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>
</tr>
<tr>
<td>§ 63.6(d)</td>
<td>[Reserved]</td>
<td></td>
</tr>
<tr>
<td>§ 63.6(e)(1)-(2)</td>
<td>Operation &amp; Maintenance</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(e)(3)(i), (ii), and (v) through (viii)</td>
<td>Startup, Shutdown, Malfunction Plan (SSMP)</td>
<td>Yes, except information regarding Group 2 emission points and equipment leaks is not required in the SSMP, as specified in § 63.2525(j).</td>
</tr>
<tr>
<td>§ 63.6(e)(3)(iii) and (iv)</td>
<td>Recordkeeping and Reporting During SSM</td>
<td>No, § 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify the recordkeeping requirement for SSM events, and § 63.2520(e)(4) specifies reporting requirements.</td>
</tr>
<tr>
<td>§ 63.6(e)(3)(ix)</td>
<td>SSMP incorporation into title V permit</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(f)(1)</td>
<td>Compliance Except During SSM</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(f)(2)-(3)</td>
<td>Methods for Determining Compliance</td>
<td>Yes.</td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Explanation</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>§ 63.6(g)(1)-3</td>
<td>Alternative Standard</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(h)</td>
<td>Opacity/Visible Emission (VE) Standards</td>
<td>Only for flares for which Method 22 observations are required as part of a flare compliance assessment.</td>
</tr>
<tr>
<td>§ 63.6(i)(1)-14</td>
<td>Compliance Extension</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.6(i)</td>
<td>Presidential Compliance Exemption</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(a)(1)-2</td>
<td>Performance Test Dates</td>
<td>Yes, except substitute 150 days for 180 days.</td>
</tr>
<tr>
<td>§ 63.7(a)(3)</td>
<td>Section 114 Authority</td>
<td>Yes, and this paragraph also applies to flare compliance assessments as specified under § 63.997(b)(2).</td>
</tr>
<tr>
<td>§ 63.7(b)(1)</td>
<td>Notification of Performance Test</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(b)(2)</td>
<td>Notification of Rescheduling</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(c)</td>
<td>Quality Assurance/Test Plan</td>
<td>Yes, except the test plan must be submitted with the notification of the performance test if the control device controls batch process vents.</td>
</tr>
<tr>
<td>§ 63.7(d)</td>
<td>Testing Facilities</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(e)(1)</td>
<td>Conditions for Conducting Performance Tests</td>
<td>Yes, except that performance tests for batch process vents must be conducted under worst-case conditions as specified in § 63.2460.</td>
</tr>
<tr>
<td>§ 63.7(e)(2)</td>
<td>Conditions for Conducting Performance Tests</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(e)(3)</td>
<td>Test Run Duration</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(f)</td>
<td>Alternative Test Method</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(g)</td>
<td>Performance Test Data Analysis</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.7(h)</td>
<td>Waiver of Tests</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(a)(1)</td>
<td>Applicability of Monitoring Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(a)(2)</td>
<td>Performance Specifications</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(a)(3)</td>
<td>[Reserved]</td>
<td></td>
</tr>
<tr>
<td>§ 63.8(a)(4)</td>
<td>Monitoring with Flares</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(b)(1)</td>
<td>Monitoring</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(b)(2)-3</td>
<td>Multiple Effluents and Multiple Monitoring Systems</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(1)</td>
<td>Monitoring System Operation and Maintenance</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(1)(i)</td>
<td>Routine and Predictable SSM</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(1)(ii)</td>
<td>SSM not in SSMP</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(1)(iii)</td>
<td>Compliance with Operation and Maintenance Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(2)-3</td>
<td>Monitoring System Installation</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(4)</td>
<td>CMS Requirements</td>
<td>Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require continuous opacity monitoring systems (COMS).</td>
</tr>
<tr>
<td>§ 63.8(c)(4)(i)</td>
<td>COMS Measurement and Recording Frequency</td>
<td>No; subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.8(c)(4)(ii)</td>
<td>CEMS Measurement and Recording Frequency</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.8(c)(5)</td>
<td>COMS Minimum Procedures</td>
<td>No. Subpart FFFF does not contain opacity or VE limits.</td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Explanation</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>§ 63.8(c)(6)</td>
<td>CMS Requirements</td>
<td>Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.8(c)(7)-(8)</td>
<td>CMS Requirements</td>
<td>Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.8(d)</td>
<td>CMS Quality Control</td>
<td>Only for CEMS.</td>
</tr>
<tr>
<td>§ 63.8(e)</td>
<td>CMS Performance Evaluation</td>
<td>Only for CEMS. Section 63.8(e)(5)(ii) does not apply because subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.8(f)(1)-(5)</td>
<td>Alternative Monitoring Method</td>
<td>Yes, except you may also request approval using the precompliance report.</td>
</tr>
<tr>
<td>§ 63.8(f)(6)</td>
<td>Alternative to Relative Accuracy Test</td>
<td>Only applicable when using CEMS to demonstrate compliance, including the alternative standard in § 63.2505.</td>
</tr>
<tr>
<td>§ 63.8(g)(1)-(4)</td>
<td>Data Reduction</td>
<td>Only when using CEMS, including for the alternative standard in § 63.2505, except that the requirements for COMS do not apply because subpart FFFF has no opacity or VE limits, and § 63.8(g)(2) does not apply because data reduction requirements for CEMS are specified in § 63.2450(j).</td>
</tr>
<tr>
<td>§ 63.8(g)(5)</td>
<td>Data Reduction</td>
<td>No. Requirements for CEMS are specified in § 63.2450(j). Requirements for CPMS are specified in referenced subparts G and SS of this part 63.</td>
</tr>
<tr>
<td>§ 63.9(a)</td>
<td>Notification Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(b)(1)-(5)</td>
<td>Initial Notifications</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(c)</td>
<td>Request for Compliance Extension</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(d)</td>
<td>Notification of Special Compliance Requirements for New Source</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(e)</td>
<td>Notification of Performance Test</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(f)</td>
<td>Notification of VE/Opacity Test</td>
<td>No. Subpart FFFF does not contain opacity or VE limits.</td>
</tr>
<tr>
<td>§ 63.9(g)</td>
<td>Additional Notifications When Using CMS</td>
<td>Only for CEMS. Section 63.9(g)(2) does not apply because subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.9(h)(1)-(6)</td>
<td>Notification of Compliance Status</td>
<td>Yes, except subpart FFFF has no opacity or VE limits, and 63.9(h)(2)(i)(A) through (G) and (ii) do not apply because 63.2520(d) specifies the required contents and due date of the notification of compliance status report.</td>
</tr>
<tr>
<td>§ 63.9(i)</td>
<td>Adjustment of Submittal Deadlines</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.9(j)</td>
<td>Change in Previous Information</td>
<td>No, § 63.2520(e) specifies reporting requirements for process changes.</td>
</tr>
<tr>
<td>§ 63.10(a)</td>
<td>Recordkeeping/Reporting</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(b)(1)</td>
<td>Recordkeeping/Reporting</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(i)-(ii), (iv), (v)</td>
<td>Records related to SSM</td>
<td>No, §§ 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify recordkeeping requirements for periods of SSM.</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(iii)</td>
<td>Records related to maintenance of air pollution control equipment</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(vi), (x), and (xi)</td>
<td>CMS Records</td>
<td>Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63.</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(vii)-(ix)</td>
<td>Records</td>
<td>Yes.</td>
</tr>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Explanation</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(xiii)</td>
<td>Records</td>
<td>Only for CEMS.</td>
</tr>
<tr>
<td>§ 63.10(b)(2)(xiv)</td>
<td>Records</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(b)(3)</td>
<td>Records</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(c)(1)-(6),(9)-(15)</td>
<td>Records</td>
<td>Only for CEMS. Recordkeeping requirements for CPMS are specified in referenced subparts G and SS of this part 63.</td>
</tr>
<tr>
<td>§ 63.10(c)(7)-(8)</td>
<td>Records</td>
<td>No. Recordkeeping requirements are specified in § 63.2525.</td>
</tr>
<tr>
<td>§ 63.10(d)(1)</td>
<td>General Reporting Requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(d)(2)</td>
<td>Report of Performance Test Results</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(d)(3)</td>
<td>Reporting Opacity or VE Observations</td>
<td>No. Subpart FFFF does not contain opacity or VE limits.</td>
</tr>
<tr>
<td>§ 63.10(d)(4)</td>
<td>Progress Reports</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(d)(5)(i)</td>
<td>Periodic Startup, Shutdown, and Malfunction Reports</td>
<td>No, § 63.2520(e)(4) and (5) specify the SSM reporting requirements.</td>
</tr>
<tr>
<td>§ 63.10(d)(5)(ii)</td>
<td>Immediate SSM Reports</td>
<td>No.</td>
</tr>
<tr>
<td>§ 63.10(e)(1)</td>
<td>Additional CEMS Reports</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.10(e)(2)(i)</td>
<td>Additional CMS Reports</td>
<td>Only for CEMS.</td>
</tr>
<tr>
<td>§ 63.10(e)(2)(ii)</td>
<td>Additional COMS Reports</td>
<td>No. Subpart FFFF does not require COMS.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)</td>
<td>Reports</td>
<td>No. Reporting requirements are specified in § 63.2520.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)(i)-(iii)</td>
<td>Reports</td>
<td>No. Reporting requirements are specified in § 63.2520.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)(iv)-(v)</td>
<td>Excess Emissions Reports</td>
<td>No. Reporting requirements are specified in § 63.2520.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)(iv)-(v)</td>
<td>Excess Emissions Reports</td>
<td>No. Reporting requirements are specified in § 63.2520.</td>
</tr>
<tr>
<td>§ 63.10(e)(3)(vi)-(viii)</td>
<td>Excess Emissions Report and Summary Report</td>
<td>No. Reporting requirements are specified in § 63.2520.</td>
</tr>
<tr>
<td>§ 63.10(e)(4)</td>
<td>Reporting COMS data</td>
<td>No. Subpart FFFF does not contain opacity or VE limits.</td>
</tr>
<tr>
<td>§ 63.10(f)</td>
<td>Waiver for Recordkeeping/Reporting</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.11</td>
<td>Control device requirements for flares and work practice requirements for equipment leaks</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.12</td>
<td>Delegation</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.13</td>
<td>Addresses</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.14</td>
<td>Incorporation by Reference</td>
<td>Yes.</td>
</tr>
<tr>
<td>§ 63.15</td>
<td>Availability of Information</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

§63.160   Applicability and designation of source.

(a) The provisions of this subpart apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or closed vent systems required by this subpart that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR part 63 that references this subpart.

(b) After the compliance date for a process unit, equipment to which this subpart applies that are also subject to the provisions of:

(1) 40 CFR part 60 will be required to comply only with the provisions of this subpart.

(2) 40 CFR part 61 will be required to comply only with the provisions of this subpart.

(c) If a process unit subject to the provisions of this subpart has equipment to which this subpart does not apply, but which is subject to a standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section, the owner or operator may elect to apply this subpart to all such equipment in the process unit. If the owner or operator elects this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with this subpart, as if they were organic hazardous air pollutant (HAP). Compliance with the provisions of this subpart, in the manner described in this paragraph, shall be deemed to constitute compliance with the standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section.

(1) 40 CFR part 60, subpart VV, GGG, or KKK; (2) 40 CFR part 61, subpart F or J; or (3) 40 CFR part 264, subpart BB or 40 CFR part 265, subpart BB.

(2) [Reserved]

(d) The provisions in §63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (b) of this section.

(e) Except as provided in any subpart that references this subpart, lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process unit.

(f) The provisions of this subpart do not apply to research and development facilities or to bench-scale batch processes, regardless of whether the facilities or processes are located at the same plant site as a process subject to the provisions of this subpart.
(g) **Alternative means of compliance**—(1) *Option to comply with part 65.* Owners or operators of CMPUs that are subject to §63.100 may choose to comply with the provisions of 40 CFR part 65 for all Group 1 and Group 2 process vents, Group 1 storage vessels, Group 1 transfer operations, and equipment that are subject to §63.100, that are part of the CMPU. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) For equipment, 40 CFR part 65 satisfies the requirements of §§63.102, 63.103, and 63.162 through 63.182. When choosing to comply with 40 CFR part 65, the requirements of §63.180(d) continue to apply.

(ii) For Group 1 and Group 2 process vents, Group 1 storage vessels, and Group 1 transfer operations, comply with §63.110(i)(1).

(2) *Part 65, subpart C or F.* For owners or operators choosing to comply with 40 CFR part 65, each surge control vessel and bottoms receiver subject to §63.100 that meets the conditions specified in table 2 or table 3 of this subpart shall meet the requirements for storage vessels in 40 CFR part 65, subpart C; all other equipment subject to §63.100 shall meet the requirements in 40 CFR part 65, subpart F.

(3) *Part 63, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C or F, for equipment subject to §63.100 must also comply with the applicable general provisions of this part 63 listed in table 4 of this subpart. All sections and paragraphs of subpart A of this part that are not mentioned in table 4 of this subpart do not apply to owners or operators of equipment subject to §63.100 of subpart F complying with 40 CFR part 65, subpart C or F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C or F, must comply with 40 CFR part 65, subpart A.


### §63.161 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section as follows, except as provided in any subpart that references this subpart.

**Batch process** means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

**Batch product-process equipment train** means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

**Bench-scale batch process** means a batch process (other than a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

**Bottoms receiver** means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

**Closed-loop system** means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

**Closed-purge system** means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

**Closed-vent system** means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back into a process.
Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic hazardous air pollutant emissions.

Compliance date means the dates specified in §63.100(k) or §63.100(l)(3) of subpart F of this part for process units subject to subpart F of this part; the dates specified in §63.190(e) of subpart I of this part for process units subject to subpart I of this part. For sources subject to other subparts in 40 CFR part 63 that reference this subpart, compliance date will be defined in those subparts. However, the compliance date for §63.170 shall be no later than 3 years after the effective date of those subparts unless otherwise specified in such other subparts.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, glass, or glass-lined as described in §63.174(h) of this subpart.

Control device means any equipment used for recovering, recapturing, or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receiver, and instrumentation system in organic hazardous air pollutant service; and any control devices or systems required by this subpart.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §63.180 (b) and (c), as appropriate, to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards, such as ANSI B31-3.

In food/medical service means that a piece of equipment in organic hazardous air pollutant service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications,

(2) An exothermic reaction which is a safety hazard,

(3) The intended reaction to be slowed down or stopped, or
(4) An undesired side reaction to occur.

In gas/vapor service means that a piece of equipment in organic hazardous air pollutant service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

1. The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C,

2. The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream, and

3. The fluid is a liquid at operating conditions.

NOTE: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).

In liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service.

In organic hazardous air pollutant or in organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of §63.180(d) of this subpart. The provisions of §63.180(d) of this subpart also specify how to determine that a piece of equipment is not in organic HAP service.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

In volatile organic compound or in VOC service means, for the purposes of this subpart, that:

1. The piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight (see 40 CFR 60.2 for the definition of VOC, and 40 CFR 60.485(d) to determine whether a piece of equipment is not in VOC service); and

2. The piece of equipment is not in heavy liquid service as defined in 40 CFR 60.481.

In-situ sampling systems means nonextractive samplers or in-line samplers.

Initial start-up means the first time a new or reconstructed source begins production. Initial start-up does not include operation solely for testing equipment. Initial start-up does not include subsequent start-ups (as defined in this section) of process units following malfunctions or process unit shutdowns.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.
**Liquids dripping** means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

**Nonrepairable** means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit shutdown.

**On-site or On site** means, with respect to records required to be maintained by this subpart, that the records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the chemical manufacturing process unit to which the records pertain, or storage in central files elsewhere at the major source.

**Open-ended valve or line** means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

**Plant site** means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

**Polymerizing monomer** means a molecule or compound usually containing carbon and of relatively low molecular weight and simple structure (e.g., hydrogen cyanide, acrylonitrile, styrene), which is capable of conversion to polymers, synthetic resins, or elastomers by combination with itself due to heat generation caused by a pump mechanical seal surface, contamination by a seal fluid (e.g., organic peroxides or chemicals that will form organic peroxides), or a combination of both with the resultant polymer buildup causing rapid mechanical seal failure.

**Pressure release** means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

**Pressure relief device or valve** means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

**Process unit** means a chemical manufacturing process unit as defined in subpart F of this part, a process subject to the provisions of subpart I of this part, or a process subject to another subpart in 40 CFR part 63 that references this subpart.

**Process unit shutdown** means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown, is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

**Recapture device** means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. Recapture devices include, but are not limited to, absorbers, carbon absorbers, and condensers.

**Recovery device** means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use or reuse. Recovery devices include, but are not limited to, absorbers, carbon absorbers, and condensers. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.
Repaired means that equipment:

(1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart, and

(2) Unless otherwise specified in applicable provisions of this subpart, is monitored as specified in §63.180 (b) and (c), as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed by hard-piping or a closed vent system to any enclosed portion of a process unit where the emissions are predominately recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not organic hazardous air pollutants; and/or incorporated into a product; and/or recovered.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

Screwed connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Start-up means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit (as defined in the specific subpart that references this subpart) when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.


§63.162 Standards: General.

(a) Compliance with this subpart will be determined by review of the records required by §63.181 of this subpart and the reports required by §63.182 of this subpart, review of performance test results, and by inspections.

(b)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§63.163 through 63.170, and §§63.172 through 63.174 of this subpart as provided in §63.177.

(2) If the Administrator makes a determination that a means of emission limitation is a permissible alternative to the requirements of §§63.163 through 63.170, and §§63.172 through 63.174 of this subpart, the owner or operator shall comply with the alternative.

(c) Each piece of equipment in a process unit to which this subpart applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.

(d) Equipment that is in vacuum service is excluded from the requirements of this subpart.

(e) Equipment that is in organic HAP service less than 300 hours per calendar year is excluded from the requirements of §§63.163 through 63.174 of this subpart and §63.178 of this subpart if it is identified as required in §63.181(j) of this subpart.
(f) When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following requirements apply:

(1) Clearly identify the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored as specified in §§63.168(f)(3), and 63.175(e)(7)(i)(D) of this subpart, and no leak has been detected during the follow-up monitoring. If the owner or operator elects to comply using the provisions of §63.174(c)(1)(i) of this subpart, the identification on a connector may be removed after it is monitored as specified in §63.174(c)(1)(i) and no leak is detected during that monitoring.

(3) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of §63.174(c)(1)(i), may be removed after it is repaired.

(g) Except as provided in paragraph (g)(1) of this section, all terms in this subpart that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in the section or subsection that imposes the requirement.

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraphs (g)(2) or (g)(3) of this section.

(2) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(3) Except as provided in paragraph (g)(1) or (g)(2) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraphs (g)(3)(i) or (g)(3)(ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(4) In all instances where a provision of this subpart requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(h) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this subpart to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this subpart. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this subpart.


§63.163 Standards: Pumps in light liquid service.

(a) The provisions of this section apply to each pump that is in light liquid service.
(1) The provisions are to be implemented on the dates specified in the specific subpart in 40 CFR part 63 that references this subpart in the phases specified below:

(i) For each group of existing process units at existing sources subject to the provisions of subparts F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2\frac{1}{2} years after the compliance date.

(ii) For new sources subject to the provisions of subparts F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(2) The owner or operator of a source subject to the provisions of subparts F or I of this part may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(b)(1) The owner or operator of a process unit subject to this subpart shall monitor each pump monthly to detect leaks by the method specified in §63.180(b) of this subpart and shall comply with the requirements of paragraphs (a) through (d) of this section, except as provided in §63.162(b) of this subpart and paragraphs (e) through (j) of this section.

(2) The instrument reading, as determined by the method as specified in §63.180(b) of this subpart, that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 5,000 parts per million or greater.

(iii) For Phase III, an instrument reading of:

(A) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(B) 2,000 parts per million or greater for pumps in food/medical service; and

(C) 1,000 parts per million or greater for all other pumps.

(3) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (c)(3) of this section or §63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(i) Tightening of packing gland nuts.
(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(3) For pumps in Phase III to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

(d)(1) The owner or operator shall decide no later than the first monitoring period whether to calculate percent leaking pumps on a process unit basis or on a source-wide basis. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(2) If, in Phase III, calculated on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of §63.176 of this subpart.

(3) The number of pumps at a process unit shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

\[ \%P_L = \left( \frac{(PL-P_S)}{(PT-P_S)} \right) \times 100 \]

where:

\( \%P_L \) = Percent leaking pumps

\( PL \) = Number of pumps found leaking as determined through monthly monitoring as required in paragraphs (b)(1) and (b)(2) of this section.

\( PT \) = Total pumps in organic HAP service, including those meeting the criteria in paragraphs (e) and (f) of this section.

\( PS \) = Number of pumps leaking within 1 month of start-up during the current monitoring period.

(e) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) through (d) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in §63.180(b) of this subpart to determine if there is a leak of organic HAP in the barrier fluid.
(ii) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (e)(3) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(6)(i) of this section, or if, based on the criteria established in paragraph (e)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(f) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraphs (a) through (c) of this section.

(g) Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart is exempt from the requirements of paragraphs (b) through (e) of this section.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(4) of this section, and the daily requirements of paragraph (e)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

(i) If more than 90 percent of the pumps at a process unit meet the criteria in either paragraph (e) or (f) of this section, the process unit is exempt from the requirements of paragraph (d) of this section.

(j) Any pump that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor pump is exempt from the requirements of paragraphs (b) through (e) of this section if:

(1) The owner or operator of the pump determines that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.


§63.164 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §63.172 of this subpart; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

c) The barrier fluid shall not be in light liquid service.

d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) through (g) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart.

(i) Any compressor that is designated, as described in §63.181(b)(2)(ii) of this subpart, to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in §63.180(c) of this subpart; and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.


§63.165 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section, as measured by the method specified in §63.180(c) of this subpart.

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §63.171 of this subpart.

(2) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in §63.180(c) of this subpart.
(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in §63.172 of this subpart is exempt from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §63.171 of this subpart.


§63.166 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §63.162(b) of this subpart. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of §63.172 of this subpart; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) A waste management unit as defined in §63.111 of subpart G of this part, if the waste management unit is subject to, and operated in compliance with the provisions of subpart G of this part applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of subpart G of part 63, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[59 FR 19568, Apr. 22, 1994, as amended at 61 FR 31439, June 20, 1996]

§63.167 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §63.162(b) of this subpart and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.
(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraph (a) through (c) of this section.

[59 FR 19568, Apr. 22, 1994, as amended at 61 FR 31440, June 20, 1996]

§63.168 Standards: Valves in gas/vapor service and in light liquid service.

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service.

(1) The provisions are to be implemented on the dates set forth in the specific subpart in 40 CFR part 63 that references this subpart as specified in paragraph (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section.

(i) For each group of existing process units at existing sources subject to the provisions of subpart F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2\(\frac{1}{2}\) years after the compliance date.

(ii) For new sources subject to the provisions of subpart F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(iii) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(2) The owner or operator of a source subject to this subpart may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of §63.180(b)(6) of this subpart.

(b) The owner or operator of a source subject to this subpart shall monitor all valves, except as provided in §63.162(b) of this subpart and paragraphs (h) and (i) of this section, at the intervals specified in paragraphs (c) and (d) of this section and shall comply with all other provisions of this section, except as provided in §63.171, §63.177, §63.178, and §63.179 of this subpart.

(1) The valves shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.
(2) The instrument reading that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 500 parts per million or greater.

(iii) For Phase III, an instrument reading of 500 parts per million or greater.

(c) In Phases I and II, each valve shall be monitored quarterly.

(d) In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

(1) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall either:

   (i) Monitor each valve once per month; or

   (ii) Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of §63.175 (d) or (e) of this subpart and monitor quarterly.

(2) At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (d)(3) and (d)(4) of this section.

(3) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(4) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(e)(1) Percent leaking valves at a process unit shall be determined by the following equation:

\[ \%V_L = \frac{V_L}{(V_T + V_C)} \times 100 \]

where:

\( \%V_L = \text{Percent leaking valves as determined through periodic monitoring required in paragraphs (b) through (d) of this section.} \)

\( V_L = \text{Number of valves found leaking excluding nonrepairables as provided in paragraph (e)(3)(i) of this section.} \)

\( V_T = \text{Total valves monitored, in a monitoring period excluding valves monitored as required by (f)(3) of this section.} \)

\( V_C = \text{Optional credit for removed valves} = 0.67 \times \text{net number (i.e., total removed−total added) of valves in organic HAP service removed from process unit after the date set forth in §63.100(k) of subpart F for existing process units, and after the date of initial start-up for new sources. If credits are not taken, then } V_C = 0. \)

(2) For use in determining monitoring frequency, as specified in paragraph (d) of this section, the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs.

(3)(i) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up
to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(f)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

(i) The monitoring shall be conducted as specified in §63.180 (b) and (c), as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraphs (b) through (d) of this section may be used to satisfy the requirements of this paragraph (f)(3), if the timing of the monitoring period coincides with the time specified in this paragraph (f)(3). Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph (f)(3), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph (f)(3).

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (f)(3) of this section, the owner or operator shall follow the provisions of paragraphs (f)(3)(iii)(A) and (f)(3)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of §63.168(e) of this subpart.

(A) If the owner or operator elected to use periodic monitoring required by paragraphs (b) through (d) of this section to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraphs (b) through (d) of this section, to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(g) First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of bonnet bolts,

(2) Replacement of bonnet bolts,

(3) Tightening of packing gland nuts, and

(4) Injection of lubricant into lubricated packing.

(h) Any valve that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) through (f) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and

(2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.
(i) Any valve that is designated, as described in §63.181(b)(7)(ii) of this subpart, as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b) through (d) of this section if:

1. The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner;

2. The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor; and

3. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(j) Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in paragraph (d)(1) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (d)(3) or (d)(4) of this section except as provided in paragraphs (h) and (i) of this section.

§63.169 Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

(a) Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in §63.180(b) of this subpart if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraphs (c) and (d) of this section, it is not necessary to monitor the system for leaks by the method specified in §63.180(b) of this subpart.

(b) If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for all other pumps (including pumps in food/medical service), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) For equipment identified in paragraph (a) of this section that is not monitored by the method specified in §63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

(d) First attempts at repair include, but are not limited to, the practices described under §§63.163(c)(2) and 63.168(g) of this subpart, for pumps and valves, respectively.


§63.170 Standards: Surge control vessels and bottoms receivers.

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 2 or table 3 of this subpart shall be equipped with a closed-vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the process or to a control device that complies with the requirements in §63.172 of this subpart, except as provided in §63.162(b) of this subpart, or comply with the requirements of §63.119(b) or (c) of subpart G of this part.
§63.171 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

1. The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

2. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §63.172 of this subpart.

(d) Delay of repair for pumps is also allowed if:

1. Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of §63.176(d) of this subpart will provide better performance or:

   i. A dual mechanical seal system that meets the requirements of §63.163(e) of this subpart,

   ii. A pump that meets the requirements of §63.163(f) of this subpart, or

   iii. A closed-vent system and control device that meets the requirements of §63.163(g) of this subpart; and

2. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.


§63.172 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in §63.162(b) of this subpart.

(b) Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to the provisions of §63.179.

(c) Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.
(d) Flares used to comply with this subpart shall comply with the requirements of §63.11(b) of subpart A of this part.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

NOTE: The intent of this provision is to ensure proper operation and maintenance of the control device.

(f) Except as provided in paragraphs (k) and (l) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual inspections according to the procedures in paragraph (g) of this section.

(g) Each closed-vent system shall be inspected according to the procedures in §63.180(b) of this subpart.

(h) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (i) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (i) of this section.

(i) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (j)(1) or (j)(2) of this section, except as provided in paragraph (j)(3) of this section.

(1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in §63.118(a)(3) of subpart G of this part. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(k) Any parts of the closed-vent system that are designated, as described in paragraph 63.181(b)(7)(i), as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:
(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually.

(i) Any parts of the closed-vent system that are designated, as described in §63.181(b)(7)(i) of this subpart, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(m) Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

(n) After the compliance dates specified in §63.100 of subpart F of this part, the owner or operator of any control device subject to this subpart that is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of this subpart. The owner or operator shall identify which option has been chosen, in the next periodic report required by §63.182(d).


§63.173 Standards: Agitators in gas/vapor service and in light liquid service.

(a)(1) Each agitator shall be monitored monthly to detect leaks by the methods specified in §63.180(b) of this subpart, except as provided in §63.162(b) of this subpart.

(2) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(b)(1) Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator.

(2) If there are indications of liquids dripping from the agitator, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (d)(6) of this section are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure; or
(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid organic HAP service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each agitator is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.

(i) If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in §63.180(b) of this subpart to determine the presence of organic HAP in the barrier fluid.

(ii) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is observed daily or is equipped with an alarm unless the agitator is located within the boundary of an unmanned plant site.

(6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §63.171 of this subpart.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraphs (a) through (c) of this section.

(f) Any agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of §63.172 of this subpart is exempt from the requirements of paragraphs (a) through (c) of the section.

(g) Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(1) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(h) Any agitator that is difficult-to-monitor is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the agitator is located is an existing source or the owner or operator designates less than three percent of the total number of agitators in a new source as difficult-to-monitor; and
(3) The owner or operator follows a written plan that requires monitoring of the agitator at least once per calendar year.

(i) Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraphs (a) through (d) of this section.

(j) Any agitator that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor agitator is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator of the agitator determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) through (d) of this section; and

(2) The owner or operator of the agitator has a written plan that requires monitoring of the agitator as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.


§63.174 Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in §63.162(b) of this subpart, and in paragraphs (f) through (h) of this section, at the intervals specified in paragraph (b) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in §63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) The owner or operator shall monitor for leaks at the intervals specified in either paragraph (b)(1) or (b)(2) of this section and in paragraph (b)(3) of this section.

(1) For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(2) For new sources, within the first 12 months after initial start-up or by no later than 12 months after the date of promulgation of a specific subpart that references this subpart, whichever is later, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(3) After conducting the initial survey required in paragraph (b)(1) or (b)(2) of this section, the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section, except as provided in paragraph (c)(2) of this section:

(i) Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period.

(ii) Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2-year period.

(iii) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one
time every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years.

(iv) If a process unit complying with the requirements of paragraph (b) of this section using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(v) If a process unit complying with requirements of paragraph (b)(3)(iii) of this section using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(4) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of §63.180(b)(6).

(c)(1)(i) Except as provided in paragraph (c)(1)(ii) of this section, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section, unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of paragraph (i)(2) of this section.

(ii) As an alternative to the requirements in paragraph (c)(1)(i) of this section, an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of paragraph (i)(2) of this section. The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the nonrepairable component, CAN, in the equation in paragraph (i)(2) of this section to zero for all monitoring periods.

(iii) An owner or operator may switch alternatives described in paragraphs (c)(1)(i) and (ii) of this section at the end of the current monitoring period he is in, provided that it is reported as required in §63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch.

(2) As an alternative to the requirements of paragraph (b)(3) of this section, each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section may:

(i) Comply with the requirements of §63.169 of this subpart, and

(ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section.

(iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before December 31, 1992.

(iv) For sources not identified in paragraph (c)(2)(iii) of this section, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart.

(d) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (g) of this section and in §63.171 of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(e) [Reserved]
(f) Any connector that is designated, as described in §63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor connector is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraphs (a) through (e) of this section; and

(2) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable.

(g) Any connector that is designated, as described in §63.181(b)(7)(iii) of this subpart, as an unsafe-to-repair connector is exempt from the requirements of paragraphs (a), (d), and (e) of this section if:

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d) of this section; and

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(h)(1) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (c) of this section and from the recordkeeping and reporting requirements of §63.181 and §63.182 of this subpart. An inaccessible connector is one that is:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §63.171 of this subpart and paragraph (g) of this section.

(3) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(i) For use in determining the monitoring frequency, as specified in paragraph (b) of this section, the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section.

(1) For the first monitoring period, use the following equation:

\[
% \text{CL} = \frac{C_L}{(C_t + C_C)} \times 100
\]

where:

% \text{CL} = \text{Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.}
\[ C_L = \text{Number of connectors measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.} \]

\[ C_t = \text{Total number of monitored connectors in the process unit.} \]

\[ C_C = \text{Optional credit for removed connectors} = 0.67 \times \text{net (i.e., total removed—total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then } C_C = 0. \]

(2) For subsequent monitoring periods, use the following equation:

\[ \% C_L = \left( \frac{C_L - C_{AN}}{C_t + C_C} \right) \times 100 \]

where:

\[ \% C_L = \text{Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.} \]

\[ C_L = \text{Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in §63.180(b) of this subpart.} \]

\[ C_{AN} = \text{Number of allowable nonrepairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section, not to exceed 2 percent of the total connector population, } C_t. \]

\[ C_t = \text{Total number of monitored connectors, including nonrepairables, in the process unit.} \]

\[ C_C = \text{Optional credit for removed connectors} = 0.67 \times \text{net number (i.e., total removed—total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then } C_C = 0. \]

(j) Optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under paragraph (b) of this section, the owner or operator may receive credit for elimination of the connector, as described in paragraph (i) of this section, provided the requirements in paragraphs (j)(1) through (j)(4) are met.

(1) The connector was welded after the date of proposal of the specific subpart that references this subpart.

(2) The integrity of the weld is demonstrated by monitoring it according to the procedures in §63.180(b) of this subpart or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method.

(3) Welds created after the date of proposal but before the date of promulgation of a specific subpart that references this subpart are monitored or tested by 3 months after the compliance date specified in the applicable subpart.

(4) Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded.

(5) If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of this subpart.

§63.175 Quality improvement program for valves.

(a) In Phase III, an owner or operator may elect to comply with one of the alternative quality improvement programs specified in paragraphs (d) and (e) of this section. The decision to use one of these alternative provisions to comply with the requirements of §63.168(d)(1)(ii) of this subpart must be made during the first year of Phase III for existing process units and for new process units.

(b) An owner or operator of a process unit subject to the requirements of paragraph (d) or (e) of this section shall comply with those requirements until the process unit has fewer than 2 percent leaking valves, calculated as a rolling average of 2 consecutive quarters, as specified in §63.168(e) of this subpart.

(c) After the process unit has fewer than 2 percent leaking valves, the owner or operator may elect to comply with the requirements in §63.168 of this subpart, to continue to comply with the requirements in paragraph (e) (or (d), if appropriate) of this section, or comply with both the requirements in §63.168 and §63.175.

(1) If the owner or operator elects to continue the quality improvement program, the owner or operator is exempt from the requirements for performance trials as specified in paragraph (e)(6) of this section, or further progress as specified in paragraph (d)(4) of this section, as long as the process unit has fewer than 2 percent leaking valves calculated according to §63.168(e).

(2) If the owner or operator elects to comply with both paragraph (e) of this section and §63.168 of this subpart, he may also take advantage of the lower monitoring frequencies associated with lower leak rates in §63.168 (d)(2), (d)(3), and (d)(4) of this subpart.

(3) If the owner or operator elects not to continue the quality improvement program, the program is no longer an option if the process unit again exceeds 2 percent leaking valves, and in such case, monthly monitoring will be required.

(d) The following requirements shall be met if an owner or operator elects to use a quality improvement program to demonstrate further progress:

(1) The owner or operator shall continue to comply with the requirements in §63.168 of this subpart except each valve shall be monitored quarterly.

(2) The owner or operator shall collect the following data, and maintain records as required in §63.181(h)(1) of this subpart, for each valve in each process unit subject to the quality improvement program:

(i) The maximum instrument reading observed in each monitoring observation before repair, the response factor for the stream if appropriate, the instrument model number, and date of the observation.

(ii) Whether the valve is in gas or light liquid service.

(iii) If a leak is detected, the repair methods used and the instrument readings after repair.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator must demonstrate progress in reducing the percent leaking valves each quarter the process unit is subject to the requirements of paragraph (d) of this section, except as provided in paragraphs (d)(4)(ii) and (d)(4)(iii) of this section.

(i) Demonstration of progress shall mean that for each quarter there is at least a 10-percent reduction in the percent leaking valves from the percent leaking valves determined for the preceding monitoring period. The percent leaking valves shall be calculated as a rolling average of two consecutive quarters of monitoring data. The percent reduction shall be calculated using the rolling average percent leaking valves, according to the following:
\[%LVR = \frac{\%LV_{AVG1} - \%LV_{AVG2}}{\%LV_{AVG1}} \times 100
\]

where:

\%LVR = Percent leaking valve reduction.

\%LV_{AVG1} = \frac{\%VL_i + \%VL_{i+1}}{2}.

\%LV_{AVG2} = \frac{\%VL_i + \%VL_{i+2}}{2}.

where:

\%VL_i, \%VL_{i+1}, \%VL_{i+2} are percent leaking valves calculated for subsequent monitoring periods, i, i+1, i+2.

(ii) An owner or operator who fails for two consecutive rolling averages to demonstrate at least a 10-percent reduction per quarter in percent leaking valves, and whose overall average percent reduction based on two or more rolling averages is less than 10 percent per quarter, shall either comply with the requirements in §63.168(d)(1)(i) of this subpart using monthly monitoring or shall comply using a quality improvement program for technology review as specified in paragraph (e) of this section. If the owner or operator elects to comply with the requirements of paragraph (e) of this section, the schedule for performance trials and valve replacements remains as specified in paragraph (e) of this section.

(iii) As an alternative to the provisions in paragraph (d)(4)(i), an owner or operator may use the procedure specified in paragraphs (d)(4)(iii)(A) and (d)(4)(iii)(B) of this section to demonstrate progress in reducing the percent leaking valves.

(A) The percent reduction that must be achieved each quarter shall be calculated as follows:

\[%RR = \frac{\%VL - 2\%}{0.10}
\]

\%RR = percent reduction required each quarter, as calculated according to §63.168(e)

\%VL = percent leaking valves, calculated according to §63.168(e), at the time elected to use provisions of §63.168(d)(1)(ii)

(B) The owner or operator shall achieve less than 2 percent leaking valves no later than 2 years after electing to use the demonstration of progress provisions in §63.175(d) of this subpart.

(e) The following requirements shall be met if an owner or operator elects to use a quality improvement program of technology review and improvement:

(1) The owner or operator shall comply with the requirements in §63.168 of this subpart except the requirement for monthly monitoring in §63.168(d)(1)(i) of this subpart does not apply.

(2) The owner or operator shall collect the data specified below, and maintain records as required in §63.181(h)(2), for each valve in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or group of process units basis. The data shall include the following:

(i) Valve type (e.g., ball, gate, check); valve manufacturer; valve design (e.g., external stem or actuating mechanism, flanged body); materials of construction; packing material; and year installed.

(ii) Service characteristics of the stream such as operating pressure, temperature, line diameter, and corrosivity.
(iii) Whether the valve is in gas or light liquid service.

(iv) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if adjusted, instrument model number, and date of the observation.

(v) If a leak is detected, the repair methods used and the instrument readings after repair.

(vi) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator shall inspect all valves removed from the process unit due to leaks. The inspection shall determine which parts of the valve have failed and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5)(i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (e)(2) of this section to determine the services, operating or maintenance practices, and valve designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to identify any superior performing valve technologies that are applicable to the service(s), operating conditions, or valve designs associated with poorer than average emission performance. A superior performing valve technology is one for which a group of such valves has a leak frequency of less than 2 percent for specific applications in such a process unit. A candidate superior performing valve technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 2 percent leaking valves in the process unit.

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of valves removed from the process unit due to leaks,

(B) Information from the available literature and from the experience of other plant sites that will identify valve designs or technologies and operating conditions associated with low emission performance for specific services, and

(C) Information on limitations on the service conditions for the valve design and operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of Phase III. The first analysis shall be performed using a minimum of two quarters of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify superior performing valve designs or technologies that can be applied to the operating conditions and services identified as having poorer than average performance, except as provided in paragraph (e)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit the valve designs or technologies that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of valves or operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 2 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in
contact with the process fluid. If any of the candidate superior performing valve technologies is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in §63.181(h)(5)(ii) of this subpart.

(ii) The number of valves in the trial evaluation program shall be the lesser of 1 percent or 20 valves for programs involving single process units and the lesser of 1 percent or 50 valves for programs involving groups of process units.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing valve designs or technologies to be evaluated, the stages for evaluating the identified candidate valve designs or technologies, including the estimated time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial valves.

(iv) The performance trials shall initially be conducted for, at least, a 6-month period beginning not later than 18 months after the start of Phase III. Not later than 24 months after the start of Phase III, the owner or operator shall have identified valve designs or technologies that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (e)(6)(vi) of this section. The compilation of candidate and demonstrated superior emission performance valve designs or technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 total employees shall be exempt from trial evaluations of valves. Plant sites exempt from the trial evaluations of valves shall begin the program at the start of the fourth year of Phase III.

(vi) An owner or operator who has conducted performance trials on all candidate superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible candidate superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator who elects to use a quality improvement program for technology review and improvement shall prepare and implement a valve quality assurance program that details purchasing specifications and maintenance procedures for all valves in the process unit. The quality assurance program may establish any number of categories, or classes, of valves as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (e)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (e)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be reviewed and, as appropriate, updated each year as long as the process unit has 2 percent or more leaking valves.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of valves. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the valve;
(C) Include a written procedure for bench testing of valves that specifies performance criteria for acceptance of valves and specifies criteria for the precision and accuracy of the test apparatus. All valves repaired off-line after preparation of the quality assurance plan shall be bench-tested for leaks. This testing may be conducted by the owner or operator of the process unit, by the vendor, or by a designated representative. The owner or operator shall install only those valves that have been documented through bench-testing to be nonleaking.

(D) Require that all valves repaired on-line be monitored using the method specified in §63.180(b) of this subpart for leaks for 2 successive months, after repair.

(E) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the process unit or by a designated representative.

(F) Detail off-line valve maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished valves will meet the design specifications for the valve type and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees; and no later than the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees.

(8) Beginning at the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees and at the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees, each valve that is replaced for any reason shall be replaced with a new or modified valve that complies with the quality assurance standards for the valve category and that is identified as superior emission performance technology. Superior emission performance technology means valves or valve technologies identified with emission performance that, combined with appropriate process, operating, and maintenance practices, will result in less than 2 percent leaking valves for specific applications in a large population, except as provided in paragraph (e)(8)(ii) of this section.

(i) The valves shall be maintained as specified in the quality assurance program.

(ii) If a superior emission performance technology cannot be identified, then valve replacement shall be with one of (if several) the lowest emission performance technologies that has been identified for the specific application.

[59 FR 19568, Apr. 22, 1994, as amended at 60 FR 63631, Dec. 12, 1995]

§63.176 Quality improvement program for pumps.

(a) In Phase III, if, on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements of this section as specified below:

(1) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section.

(b) The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in §63.163 of this subpart.
(c) If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) The quality improvement program shall include the following:

1. The owner or operator shall comply with the requirements in §63.163 of this subpart.

2. The owner or operator shall collect the following data, and maintain records as required in §63.181(h)(3), for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

   i. Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

   ii. Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

   iii. The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

   iv. If a leak is detected, the repair methods used and the instrument readings after repair.

   v. If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

3. The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

4. The owner or operator shall inspect all pumps or pump seals which exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

5. (i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

   (ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

   (iii) The analysis shall include consideration of:

      (A) The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

      (B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and
(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using a minimum of 6 months of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in §63.181(h)(5)(ii).

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible
alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation
documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance
technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing
specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance
program may establish any number of categories, or classes, of pumps as needed to distinguish among operating
conditions and services associated with poorer than average emission performance as well as those associated with
better than average emission performance. The quality assurance program shall be developed considering the
findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial
evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit. The quality
assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or
more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards
shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or
other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump
seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase
specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a
designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that
rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will
operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality
improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of
the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100
employees.

(8) Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves
or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with
less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs
(d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology
with pumps or pump seals that have been identified as superior emission performance technology and that comply
with the quality assurance standards for the pump category. Superior emission performance technology is that
category or design of pumps or pump seals with emission performance which, when combined with appropriate
process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific
applications in the process unit or plant site. Superior emission performance technology includes material or design
changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent,
or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in
light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number
of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of
§63.163 of this subpart are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next
planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20
percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.
§63.177 Alternative means of emission limitation: General.

(a) Permission to use an alternative means of emission limitation under section 112(h)(3) of the Act shall be governed by the following procedures in paragraphs (b) through (e) of this section.

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission to use an alternative means of emission limitation under §63.6(g) of subpart A of this part shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(e)(1) Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d) of this section.

§63.178 Alternative means of emission limitation: Batch processes.

(a) As an alternative to complying with the requirements of §§63.163 through 63.171 and §§63.173 through 63.176, an owner or operator of a batch process that operates in organic HAP service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of §63.177 of this subpart. The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in §63.181.
(b) The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart. An owner or operator who complies with the provisions of this paragraph is exempt from the monitoring provisions of §63.163, §§63.168 and 63.169, and §§63.173 through 63.176 of this subpart.

(1) Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before organic HAP is first fed to the equipment and the equipment is placed in organic HAP service.

(i) When the batch product-process train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in organic HAP service during a calendar year shall be pressure tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, which are not part of the reconfiguration to produce a different product or intermediate.

(2) The batch product process equipment shall be tested either using the procedures specified in §63.180(f) of this subpart for pressure or vacuum loss or with a liquid using the procedures specified in §63.180(g) of this subpart.

(3)(i) For pressure or vacuum tests, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 psig) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4)(i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the second pressure test, provided the conditions specified in paragraph (d) of this section are met.

(c) The following requirements shall be met if an owner or operator elects to monitor the equipment to detect leaks by the method specified in §63.180(b) of this subpart to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§63.163 through 63.170, and §§63.172 through 63.176 of this subpart.

(2) The equipment shall be monitored for leaks by the method specified in §63.180(b) of this subpart when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(3) The equipment shall be monitored for leaks as specified below:

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

(ii) Connectors shall be monitored in accordance with the requirements in §63.174 of this subpart.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 of this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.
(iv) The monitoring frequencies specified in table 1 of this subpart are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section.

(d) Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following conditions are met:

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

§63.179 Alternative means of emission limitation: Enclosed-vented process units.

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of §63.172 of this subpart are exempt from the requirements of §63.163, through 63.171, and §§63.173 and 63.174 of this subpart. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

§63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2)(i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.
(A) For Phase I, a mixture of methane or other compounds, as applicable, in air at a concentration of approximately, but less than, 10,000 parts per million.

(B) For Phase II, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million for agitators, 5,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(C) For Phase III, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps in food/medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(5) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(6) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may be used to qualify for less frequent monitoring under the provisions in §63.168(d)(2) and (d)(3) or §63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.

(i) The data were obtained before April 22, 1994.

(ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section or from the specified monitoring frequency of §63.168(c) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) When equipment is monitored for compliance as required in §§63.164(i), 63.165(a), and 63.172(f) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section. In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b)(1) through (4) of this section shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance.
(d)(1) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(2)(i) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

(3) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

(e) When a flare is used to comply with §63.172(d), the owner or operator shall comply with paragraphs (e)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in §63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in §63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either §63.11(b)(7)(i) (and §63.11(b)(7)(iii), where applicable) or §63.11(b)(8), as appropriate.

(f) The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of §63.178(b)(3)(i) of this subpart.

(1) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum.

(2) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(3) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

\[
\Delta \frac{P}{t} = \left( \frac{P_f - P_i}{t_f - t_i} \right)
\]

where:

\( \Delta \frac{P}{t} = \) Change in pressure, psig/hr.
\( P_f = \) Final pressure, psig.

\( P_i = \) Initial pressure, psig.

\( t_f - t_i = \) Elapsed time, hours.

(4) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of ±2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least + 10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour.

(5) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(g) The following procedures shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of §63.178(b)(3)(ii) of this subpart.

(1) The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(2) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(3) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(4) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.


§63.181 Recordkeeping requirements.

(a) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(b) Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§63.162 through 63.174 of this subpart shall be recorded:

(1)(i) A list of identification numbers for equipment (except connectors exempt from monitoring and recordkeeping identified in §63.174 of this subpart and instrumentation systems) subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by §63.174 (b)(1) or (b)(2) of this subpart.

(ii) A schedule by process unit for monitoring connectors subject to the provisions of §63.174(a) of this subpart and valves subject to the provisions of §63.168(d) of this subpart.
(iii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of §63.163(g), §63.164(h), §63.165(c), or §63.173(f) of this subpart.

(ii) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of §63.164(i) of this subpart.

(iii) Identification of surge control vessels or bottoms receivers subject to the provisions of this subpart that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of §63.170 of this subpart.

(3)(i) A list of identification numbers for pressure relief devices subject to the provisions in §63.165(a) of this subpart.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of §63.165(d) of this subpart.

(4) Identification of instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) Identification of screwed connectors subject to the requirements of §63.174(c)(2) of this subpart. Identification can be by area or grouping as long as the total number within each group or area is recorded.

(6) The following information shall be recorded for each dual mechanical seal system:

(i) Design criteria required in §§63.163(e)(6)(i), 63.164(e)(2), and 63.173(d)(6)(i) of this subpart and an explanation of the design criteria; and

(ii) Any changes to these criteria and the reasons for the changes.

(7) The following information pertaining to all pumps subject to the provisions of §63.163(j), valves subject to the provisions of §63.168(h) and (i) of this subpart, agitators subject to the provisions of §63.173(h) through (j), and connectors subject to the provisions of §63.174(f) and (g) of this subpart shall be recorded:

(i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.

(ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment.

(iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.

(8)(i) A list of valves removed from and added to the process unit, as described in §63.168(e)(1) of this subpart, if the net credits for removed valves is expected to be used.

(ii) A list of connectors removed from and added to the process unit, as described in §63.174(i)(1) of this subpart, and documentation of the integrity of the weld for any removed connectors, as required in §63.174(j) of this subpart. This is not required unless the net credits for removed connectors is expected to be used.

(9)(i) For batch process units that the owner or operator elects to monitor as provided under §63.178(c) of this subpart, a list of equipment added to batch product process units since the last monitoring period required in §63.178(c)(3)(ii) and (3)(iii) of this subpart.
(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in §63.178(c)(3)(iii) of this subpart.

(10) For any leaks detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(c) For visual inspections of equipment subject to the provisions of this subpart (e.g., §63.163(b)(3), §63.163(e)(4)(i)), the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years.

(d) When each leak is detected as specified in §§63.163 and 63.164; §§63.168 and 63.169; and §§63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years:

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

(4) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by §63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(6) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(7)(i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in §63.174(b) of this subpart, as described in §63.174(c)(1) of this subpart, unless the owner or operator elects to comply with the provisions of §63.174(c)(1)(ii) of this subpart.

(ii) The date and results of monitoring as required in §63.174(c) of this subpart. If identification of connectors that have been opened or otherwise had the seal broken is made by location under paragraph (d)(7)(i) of this section, then all connectors within the designated location shall be monitored.

(8) The date and results of the monitoring required in §63.178(c)(3)(i) of this subpart for equipment added to a batch process unit since the last monitoring period required in §63.178(c)(3)(ii) and (c)(3)(iii) of this subpart. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(9) Copies of the periodic reports as specified in §63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records.
(e) The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart is exempt from the requirements of paragraphs (b), (c), (d), and (f) of this section. Instead, the owner or operator shall maintain records of the following information:

1. The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

2. [Reserved]

3. Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

4. The dates of each pressure test required in §63.178(b) of this subpart, the test pressure, and the pressure drop observed during the test.

5. Records of any visible, audible, or olfactory evidence of fluid loss.

6. When a batch product process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

   i. The date of each pressure test and the date of each leak repair attempt.

   ii. Repair methods applied in each attempt to repair the leak.

   iii. The reason for the delay of repair.

   iv. The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

   v. The date of successful repair.

(f) The dates and results of each compliance test required for compressors subject to the provisions in §63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in §§63.165(a) and (b) of this subpart. The results shall include:

1. The background level measured during each compliance test.

2. The maximum instrument reading measured at each piece of equipment during each compliance test.

(g) The owner or operator shall maintain records of the information specified in paragraphs (g)(1) through (g)(3) of this section for closed-vent systems and control devices subject to the provisions of §63.172 of this subpart. The records specified in paragraph (g)(1) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(2) and (g)(3) of this section shall be retained for 2 years.

1. The design specifications and performance demonstrations specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this section.

   i. Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

   ii. The dates and descriptions of any changes in the design specifications.

   iii. The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by §63.11(b) of subpart A of this part.
(iv) A description of the parameter or parameters monitored, as required in §63.172(e) of this subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(2) Records of operation of closed-vent systems and control devices, as specified in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.

(i) Dates and durations when the closed-vent systems and control devices required in §§63.163 through 63.166, and §63.170 of this subpart are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(ii) Dates and durations during which the monitoring system or monitoring device is inoperative.

(iii) Dates and durations of start-ups and shutdowns of control devices required in §§63.163 through 63.166, and §63.170 of this subpart.

(3) Records of inspections of closed-vent systems subject to the provisions of §63.172 of this subpart, as specified in paragraphs (g)(3)(i) and (g)(3)(ii) of this section.

(i) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) of this subpart during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(ii) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) of this subpart during which leaks were detected, the information specified in paragraph (d) of this section shall be recorded.

(h) Each owner or operator of a process unit subject to the requirements of §§63.175 and 63.176 of this subpart shall maintain the records specified in paragraphs (h)(1) through (h)(9) of this section for the period of the quality improvement program for the process unit.

(1) For owners or operators who elect to use a reasonable further progress quality improvement program, as specified in §63.175(d) of this subpart:

(i) All data required in §63.175(d)(2) of this subpart.

(ii) The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter.

(iii) The beginning and ending dates while meeting the requirements of §63.175(d) of this subpart.

(2) For owners or operators who elect to use a quality improvement program of technology review and improvement, as specified in §63.175(e) of this subpart:

(i) All data required in §63.175(e)(2) of this subpart.

(ii) The percent leaking valves observed each quarter.

(iii) Documentation of all inspections conducted under the requirements of §63.175(e)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of §63.175(e) of this subpart.

(3) For owners or operators subject to the requirements of the pump quality improvement program as specified in §63.176 of this subpart:
(i) All data required in §63.176(d)(2) of this subpart.

(ii) The rolling average percent leaking pumps.

(iii) Documentation of all inspections conducted under the requirements of §63.176(d)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of §63.176(d) of this subpart.

(4) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

(5) Records of all analyses required in §§63.175(e) and 63.176(d) of this subpart. The records will include the following:

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing valve or pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under §§63.175(e)(6)(iii) and 63.176(d)(6)(iii) of this subpart.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(6) All records documenting the quality assurance program for valves or pumps as specified in §§63.175(e)(7) and 63.176(d)(7) of this subpart.

(7) Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in §63.175(e)(7) and §63.176(d)(7) of this subpart.

(8) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in §63.176(d)(8) of this subpart.

(9) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

(i) The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (i)(1) or (i)(2) of this section, as provided in paragraph (i)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of “in light liquid service.” Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(j) Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of this subpart under §63.160 of this subpart.
(k) Owners and operators choosing to comply with the requirements of §63.179 of this subpart shall maintain the following records:

(1) Identification of the process unit(s) and the organic HAP's they handle.

(2) A schematic of the process unit, enclosure, and closed-vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.


§63.182 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section. Owners or operators requesting an extension of compliance shall also submit the report listed in paragraph (a)(6) of this section.

(1) An Initial Notification described in paragraph (b) of this section, and

(2) A Notification of Compliance Status described in paragraph (c) of this section,

(3) Periodic Reports described in paragraph (d) of this section, and

(4)-(5) [Reserved]

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing an existing source up to 1 additional year beyond the compliance date specified in the subpart that references this subpart.

(i) For purposes of this subpart, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application. If the State in which the source is located does not have an approved operating permit program, a request for an extension shall be submitted to the Administrator as a separate submittal. The dates specified in §63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) A request for an extension of compliance must include the data described in §63.6(i)(6)(i) (A), (B), and (D) of subpart A of this part.

(iii) The requirements in §63.6(i)(8) through (i)(14) of subpart A of this part will govern the review and approval of requests for extensions of compliance with this subpart.

(b) Each owner or operator of an existing or new source subject to the provisions of this subpart shall submit a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1), according to the schedule in paragraph (b)(2) of this section. The Initial Notification provisions in §63.9(b)(1) through (b)(3) of subpart A of this part shall not apply to owners or operators of sources subject to this subpart.

(1) The Initial Notification shall include the following information:

(i) The name and address of the owner or operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the chemical manufacturing processes subject to this subpart; and
(iv) A statement of whether the source can achieve compliance by the applicable compliance date specified in the subpart in 40 CFR part 63 that references this subpart.

(2) The Initial Notification shall be submitted according to the schedule in paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.

(i) For an existing source, the Initial Notification shall be submitted within 120 days after the date of promulgation of the subpart that references this subpart.

(ii) For a new source that has an initial start-up 90 days after the date of promulgation of this subpart or later, the application for approval of construction or reconstruction required by §63.5(d) of subpart A of this part shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of the subpart that references this subpart).

(iii) For a new source that has an initial start-up prior to 90 days after the date of promulgation of the applicable subpart, the Initial Notification shall be submitted within 90 days after the date of promulgation of the subpart that references this subpart.

(c) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status within 90 days after the compliance dates specified in the subpart in 40 CFR part 63 that references this subpart, except as provided in paragraph (c)(4) of this section.

(1) The notification shall provide the information listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section for each process unit subject to the requirements of §63.163 through §63.174 of this subpart.

(i) Process unit identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(iv) Planned schedule for each phase of the requirements in §63.163 and §63.168 of this subpart.

(2) The notification shall provide the information listed in paragraphs (c)(2)(i) and (c)(2)(ii) of this section for each process unit subject to the requirements of §63.178(b) of this subpart.

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (c)(3)(i) and (c)(3)(ii) of this section for each process unit subject to the requirements in §63.179 of this subpart.

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of §63.172 of this subpart.

(4) For existing sources subject to subpart F of this part, the Notification of Compliance Status shall be submitted for the group of process units with the earliest compliance date specified in §63.100(k) of subpart F of this part, by no later than 90 days after the compliance date for that group. The Notification of Compliance Status for each subsequent group shall be submitted as part of the first periodic report that is due not less than 90 days after the compliance date for that group.
(d) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) A report containing the information in paragraphs (d)(2), (d)(3), and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. The first periodic report shall cover the first 6 months after the compliance date specified in §63.100(k)(3) of subpart F. Each subsequent periodic report shall cover the 6 month period following the preceding period.

(2) For each process unit complying with the provisions of §63.163 through §63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period.

(i) The number of valves for which leaks were detected as described in §63.168(b) of this subpart, the percent leakers, and the total number of valves monitored;

(ii) The number of valves for which leaks were not repaired as required in §63.168(f) of this subpart, identifying the number of those that are determined nonrepairable;

(iii) The number of pumps for which leaks were detected as described in §63.163(b) of this subpart, the percent leakers, and the total number of pumps monitored;

(iv) The number of pumps for which leaks were not repaired as required in §63.163(c) of this subpart;

(v) The number of compressors for which leaks were detected as described in §63.164(f) of this subpart;

(vi) The number of compressors for which leaks were not repaired as required in §63.164(g) of this subpart;

(vii) The number of agitators for which leaks were detected as described in §63.173(a) and (b) of this subpart;

(viii) The number of agitators for which leaks were not repaired as required in §63.173(c) of this subpart;

(ix) The number of connectors for which leaks were detected as described in §63.174(a) of this subpart, the percent of connectors leaking, and the total number of connectors monitored;

(x) [Reserved]

(xi) The number of connectors for which leaks were not repaired as required in §63.174(d) of this subpart, identifying the number of those that are determined nonrepairable;

(xii) [Reserved]

(xiii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

(xiv) The results of all monitoring to show compliance with §§63.164(i), 63.165(a), and 63.172(f) of this subpart conducted within the semiannual reporting period.

(xv) If applicable, the initiation of a monthly monitoring program under §63.168(d)(1)(i) of this subpart, or a quality improvement program under either §§63.175 or 63.176 of this subpart.

(xvi) If applicable, notification of a change in connector monitoring alternatives as described in §63.174(c)(1) of this subpart.

(xvii) If applicable, the compliance option that has been selected under §63.172(n).
(3) For owners or operators electing to meet the requirements of §63.178(b) of this subpart, the report shall include
the information listed in paragraphs (i) through (v) of this paragraph for each process unit.

(i) Batch product process equipment train identification;

(ii) The number of pressure tests conducted;

(iii) The number of pressure tests where the equipment train failed the pressure test;

(iv) The facts that explain any delay of repairs; and

(v) The results of all monitoring to determine compliance with §63.172(f) of this subpart.

(4) The information listed in paragraph (c) of this section for the Notification of Compliance Status for process units
with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method
of compliance has changed since the last report.

[59 FR 19568, Apr. 22, 1994, as amended at 59 FR 48178, Sept. 20, 1994; 60 FR 18030, Apr. 10, 1995; 60 FR

§63.183 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable
State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency,
then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the
applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a
State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under
subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of
U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1)
through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.160, 63.162 through 63.176, 63.178 through 63.179. Follow
the applicable procedures of §63.177 to request an alternative means of emission limitation for batch processes and
enclosed-vented process units. Where these standards reference another subpart, the cited provisions will be
delegated according to the delegation provisions of the referenced subpart. Where these standards reference another
subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of
the modified requirements will also occur according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required
in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as
required in this subpart.

[68 FR 37345, June 23, 2003]
Table 1 to Subpart H of Part 63—Batch Processes

Monitoring Frequency for Equipment Other than Connectors

<table>
<thead>
<tr>
<th>Operating time (% of year)</th>
<th>Equivalent continuous process monitoring frequency time in use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly</td>
</tr>
<tr>
<td>0 to &lt;25</td>
<td>Quarterly</td>
</tr>
<tr>
<td>25 to &lt;50</td>
<td>Quarterly</td>
</tr>
<tr>
<td>50 to &lt;75</td>
<td>Bimonthly</td>
</tr>
<tr>
<td>75 to 100</td>
<td>Monthly</td>
</tr>
</tbody>
</table>

Table 2 to Subpart H of Part 63—Surge Control Vessels and Bottoms Receivers at Existing Sources

<table>
<thead>
<tr>
<th>Vessel capacity (cubic meters)</th>
<th>Vapor pressure(^1) (kilopascals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 ≤ capacity &lt; 151</td>
<td>≥ 13.1</td>
</tr>
<tr>
<td>151 ≤ capacity</td>
<td>≥ 5.2(^a)</td>
</tr>
</tbody>
</table>

\(^1\) Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

[60 FR 18025, Apr. 10, 1995]

Table 3 to Subpart H of Part 63—Surge Control Vessels and Bottoms Receivers at New Sources

<table>
<thead>
<tr>
<th>Vessel capacity (cubic meters)</th>
<th>Vapor pressure(^1) (kilopascals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 ≤ capacity &lt; 151</td>
<td>≥ 13.1</td>
</tr>
<tr>
<td>151 ≤ capacity</td>
<td>≥ 0.7</td>
</tr>
</tbody>
</table>

\(^1\) Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

[60 FR 18025, Apr. 10, 1995]

Table 4 to Subpart H of Part 63—Applicable 40 CFR Part 63 General Provisions

<table>
<thead>
<tr>
<th>40 CFR part 63, subpart A, provisions applicable to subpart H</th>
</tr>
</thead>
<tbody>
<tr>
<td>§63.1(a)(1), (a)(2), (a)(3), (a)(13), (a)(14), (b)(2) and (c)(4)</td>
</tr>
<tr>
<td>§63.2</td>
</tr>
<tr>
<td>§63.5(a)(1), (a)(2), (b), (d)(1)(ii), (d)(4), (e), (f)(1) and (f)(2)</td>
</tr>
<tr>
<td>§63.6(a), (a)(3), (c)(5), (i)(1), (i)(2), (i)(4)(i)(A), (i)(5) through (i)(14), (i)(16) and (j)</td>
</tr>
<tr>
<td>§63.9(a)(2), (b)(4)(i), (b)(4)(ii), (b)(4)(iii), (b)(5)a, (c) and (d)</td>
</tr>
<tr>
<td>§63.10(d)(4)</td>
</tr>
<tr>
<td>§63.11 (c), (d), and (e)</td>
</tr>
<tr>
<td>§63.12(b)</td>
</tr>
</tbody>
</table>
The notifications specified in §63.9(b)(4)(i) and (b)(5) shall be submitted at the times specified in 40 CFR part 65.

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart SS—National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process

SOURCE: 64 FR 34866, June 29, 1999, unless otherwise noted.

§ 63.980 Applicability.

The provisions of this subpart include requirements for closed vent systems, control devices and routing of air emissions to a fuel gas system or process. These provisions apply when another subpart references the use of this subpart for such air emission control. These air emission standards are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as specified in a referencing subpart.

§ 63.981 Definitions.

*Alternate test method* means any method of sampling and analyzing for an air pollutant that is not a reference test or equivalent method, and that has been demonstrated to the Administrator's satisfaction, using Method 301 in appendix A of this part 63, or previously approved by the Administrator prior to the promulgation date of standards for an affected source or affected facility under a referencing subpart, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this subpart.

*Boiler* means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater.

*By compound* means by individual stream components, not carbon equivalents.

*Closed vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device. Closed vent system does not include the vapor collection system that is part of any tank truck or railcar.

*Closed vent system shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a closed vent system or part of a closed vent system consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a closed vent system shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the closed vent system or part of the closed vent system of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled closed vent system shutdown, is not a closed vent system shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not closed vent system shutdowns.
Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic emissions.

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in § 63.998(b).

Control device means, with the exceptions noted below, a combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart or a referencing subpart. For process vents from continuous unit operations at affected sources in subcategories where the applicability criteria includes a TRE index value, recovery devices are not considered to be control devices. Primary condensers on steam strippers or fuel gas systems are not considered to be control devices.

Control System means the combination of the closed vent system and the control devices used to collect and control vapors or gases from a regulated emission source.

Day means a calendar day.

Ductwork means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Final recovery device means the last recovery device on a process vent stream from a continuous unit operation at an affected source in a subcategory where the applicability criteria includes a TRE index value. The final recovery device usually discharges to a combustion device, recapture device, or directly to the atmosphere.

First attempt at repair, for the purposes of this subpart, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in § 63.983(c) to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous streams generated by onsite operations, may blend them with other sources of gas, and transports the gaseous streams for use as fuel gas in combustion devices or in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31.3.

High throughput transfer rack means those transfer racks that transfer a total of 11.8 million liters per year or greater of liquid containing regulated material.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.
Low throughput transfer rack means those transfer racks that transfer less than a total of 11.8 million liters per year of liquid containing regulated material.

Operating parameter value means a minimum or maximum value established for a control device parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit or operating limit.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photo ionization, or thermal conductivity.

Owner or operator means any person who owns, leases, operates, controls, or supervises a regulated source or a stationary source of which a regulated source is a part.

Performance level means the level at which the regulated material in the gases or vapors vented to a control or recovery device is removed, recovered, or destroyed. Examples of control device performance levels include: achieving a minimum organic reduction efficiency expressed as a percentage of regulated material removed or destroyed in the control device inlet stream on a weight-basis; achieving an organic concentration in the control device exhaust stream that is less than a maximum allowable limit expressed in parts per million by volume on a dry basis corrected to 3 percent oxygen if a combustion device is the control device and supplemental combustion air is used to combust the emissions; or maintaining appropriate control device operating parameters indicative of the device performance at specified values.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission limit as specified in the performance test section of this subpart or in the referencing subpart.

Primary fuel means the fuel that provides the principal heat input to a device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means an enclosed combustion device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water. A process heater may, as a secondary function, heat water in unfired heat recovery sections.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. For example, a recapture device may recover chemicals primarily for disposal. Recapture devices include, but are not limited to, absorbers, carbon adsorbers, and condensers. For purposes of the monitoring, recordkeeping and reporting requirements of this subpart, recapture devices are considered recovery devices.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Recovery operations equipment means the equipment used to separate the components of process streams. Recovery operations equipment includes distillation units, condensers, etc. Equipment used for wastewater treatment shall not be considered recovery operations equipment.

Referencing subpart means the subpart which refers an owner or operator to this subpart.

Regulated material, for purposes of this subpart, refers to vapors from volatile organic liquids (VOL), volatile organic compounds (VOC), or hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by a referencing subpart.
Regulated source for the purposes of this subpart, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a relevant standard or other requirement established pursuant to a referencing subpart.

Repaired, for the purposes of this subpart, means that equipment; is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart; and unless otherwise specified in applicable provisions of this subpart, is inspected as specified in § 63.983(c) to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the gas streams are conveyed to any enclosed portion of a process unit where the emissions are recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not regulated materials; and/or incorporated into a product; and/or recovered.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this subpart. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat in addition to the heat provided by the primary fuel.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Specific gravity monitoring device means a unit of equipment used to monitor specific gravity and having a minimum accuracy of ±0.02 specific gravity units.

Supplemental combustion air means the air that is added to a vent stream after the vent stream leaves the unit operation. Air that is part of the vent stream as a result of the nature of the unit operation is not considered supplemental combustion air. Air required to operate combustion device burner(s) is not considered supplemental combustion air. Air required to ensure the proper operation of catalytic oxidizers, to include the intermittent addition of air upstream of the catalyst bed to maintain a minimum threshold flow rate through the catalyst bed or to avoid excessive temperatures in the catalyst bed, is not considered to be supplemental combustion air.

Temperature monitoring device means a unit of equipment used to monitor temperature and having a minimum accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±1.2 degrees Celsius (°C), whichever is greater.

§ 63.982 Requirements.

(a) General compliance requirements for storage vessels, process vents, transfer racks, and equipment leaks. An owner or operator who is referred to this subpart for controlling regulated material emissions from storage vessels, process vents, low and high throughput transfer racks, or equipment leaks by venting emissions through a closed vent system to a flare, nonflare control device or routing to a fuel gas system or process shall comply with the applicable requirements of paragraphs (a)(1) through (4) of this section.

(1) Storage vessels. The owner or operator shall comply with the applicable provisions of paragraphs (b), (c)(1), and (d) of this section.

(2) Process vents. The owner or operator shall comply with the applicable provisions of paragraphs (b), (c)(2), and (e) of this section.

(3) Transfer racks. (i) For low throughput transfer racks, the owner or operator shall comply with the applicable provisions of paragraphs (b), (c)(1), and (d) of this section.
(ii) For high throughput transfer racks, the owner or operator shall comply with the applicable provisions of paragraphs (b), (c)(2), and (d) of this section.

(4) **Equipment leaks.** The owner or operator shall comply with the applicable provisions of paragraphs (b), (c)(3), and (d) of this section.

(b) **Closed vent system and flare.** Owners or operators that vent emissions through a closed vent system to a flare shall meet the requirements in § 63.983 for closed vent systems; § 63.987 for flares; § 63.997 (a), (b) and (c) for provisions regarding flare compliance assessments; the monitoring, recordkeeping, and reporting requirements referenced therein; and the applicable recordkeeping and reporting requirements of §§ 63.998 and 63.999. No other provisions of this subpart apply to emissions vented through a closed vent system to a flare.

(c) **Closed vent system and nonflare control device.** Owners or operators who control emissions through a closed vent system to a nonflare control device shall meet the requirements in § 63.983 for closed vent systems, the applicable recordkeeping and reporting requirements of §§ 63.998 and 63.999, and the applicable requirements listed in paragraphs (c)(1) through (3) of this section.

(1) For storage vessels and low throughput transfer racks, the owner or operator shall meet the requirements in § 63.985 for nonflare control devices and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to low throughput transfer rack emissions or storage vessel emissions vented through a closed vent system to a nonflare control device unless specifically required in the monitoring plan submitted under § 63.985(c).

(2) For process vents and high throughput transfer racks, the owner or operator shall meet the requirements applicable to the control devices being used in § 63.988, § 63.990 or § 63.995; the applicable general monitoring requirements of § 63.996 and the applicable performance test requirements and procedures of § 63.997; and the monitoring, recordkeeping and reporting requirements referenced therein. Owners or operators subject to halogen reduction device requirements under a referencing subpart must also comply with § 63.994 and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§ 63.984 through 63.986 do not apply to process vents or high throughput transfer racks.

(3) For equipment leaks, owners or operators shall meet the requirements in § 63.986 for nonflare control devices used for equipment leak emissions and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions vented through a closed vent system to a nonflare control device.

(d) **Route to a fuel gas system or process.** Owners or operators that route emissions to a fuel gas system or to a process shall meet the requirements in § 63.984, the monitoring, recordkeeping, and reporting requirements referenced therein, and the applicable recordkeeping and reporting requirements of §§ 63.998 and 63.999. No other provisions of this subpart apply to emissions being routed to a fuel gas system or process.

(e) **Final recovery devices.** Owners or operators who use a final recovery device to maintain a TRE above a level specified in a referencing subpart shall meet the requirements in § 63.993 and the monitoring, recordkeeping, and reporting requirements referenced therein that are applicable to the recovery device being used; the applicable monitoring requirements in § 63.996 and the recordkeeping and reporting requirements referenced therein; and the applicable recordkeeping and reporting requirements of §§ 63.998 and 63.999. No other provisions of this subpart apply to process vent emissions routed to a final recovery device.

(f) **Combined emissions.** When emissions from different emission types (e.g., emissions from process vents, transfer racks, and/or storage vessels) are combined, an owner or operator shall comply with the requirements of either paragraph (f)(1) or (2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of emissions in the stream (e.g., the requirements of paragraph (a)(2) of this section for process vents, and the requirements of paragraph (a)(3) of this section for transfer racks); or
(2) Comply with the first set of requirements identified in paragraphs (f)(2)(i) through (iii) of this section which applies to any individual emission stream that is included in the combined stream. Compliance with paragraphs (f)(2)(i) through (iii) of this section constitutes compliance with all other emissions requirements for other emission streams.

(i) The requirements of § 63.982(a)(2) for process vents, including applicable monitoring, recordkeeping, and reporting;

(ii) The requirements of § 63.982(a)(3)(ii) for high throughput transfer racks, including applicable monitoring, recordkeeping, and reporting;

(iii) The requirements of § 63.982(a)(1) or (a)(3)(i) for control of emissions from storage vessels or low throughput transfer racks, including applicable monitoring, recordkeeping, and reporting.

[64 FR 34866, June 29, 1999, as amended at 64 FR 63705, Nov. 22, 1999]

§ 63.983 Closed vent systems.

(a) Closed vent system equipment and operating requirements. Except for closed vent systems operated and maintained under negative pressure, the provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) Collection of emissions. Each closed vent system shall be designed and operated to collect the regulated material vapors from the emission point, and to route the collected vapors to a control device.

(2) Period of operation. Closed vent systems used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to, or collected by, them.

(3) Bypass monitoring. Except for equipment needed for safety purposes such as pressure relief devices, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator shall comply with the provisions of either paragraphs (a)(3)(i) or (ii) of this section for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

(i) Properly install, maintain, and operate a flow indicator that is capable of taking periodic readings. Records shall be generated as specified in § 63.998(d)(1)(ii)(A). The flow indicator shall be installed at the entrance to any bypass line.

(ii) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. Records shall be generated as specified in § 63.998(d)(1)(ii)(B).

(4) Loading arms at transfer racks. Each closed vent system collecting regulated material from a transfer rack shall be designed and operated so that regulated material vapors collected at one loading arm will not pass through another loading arm in the rack to the atmosphere.

(5) Pressure relief devices in a transfer rack's closed vent system. The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's closed vent system shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(b) Closed vent system inspection and monitoring requirements. The provisions of this subpart apply to closed vent systems collecting regulated material from a regulated source. Inspection records shall be generated as specified in § 63.998(d)(1)(iii) and (iv) of this section.

(1) Except for any closed vent systems that are designated as unsafe or difficult to inspect as provided in paragraphs (b)(2) and (3) of this section, each closed vent system shall be inspected as specified in paragraph (b)(1)(i) or (ii) of this section.
(i) If the closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (b)(1)(i)(A) and (B) of this section.

(A) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(B) Conduct annual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the closed vent system is constructed of ductwork, the owner or operator shall conduct an initial and annual inspection according to the procedures in paragraph (c) of this section.

(2) Any parts of the closed vent system that are designated, as described in § 63.998(d)(1)(i), as unsafe to inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the conditions of paragraphs (b)(2)(i) and (ii) of this section are met.

(i) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (b)(1) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practical during safe-to-inspect times. Inspection is not required more than once annually.

(3) Any parts of the closed vent system that are designated, as described in § 63.998(d)(1)(i), as difficult-to-inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the provisions of paragraphs (b)(3)(i) and (ii) of this section apply.

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters (7 feet) above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(4) For each bypass line, the owner or operator shall comply with paragraph (b)(4)(i) or (ii) of this section.

(i) If a flow indicator is used, take a reading at least once every 15 minutes.

(ii) If the bypass line valve is secured in the non-diverting position, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position, and the vent stream is not diverted through the bypass line.

(c) Closed vent system inspection procedures. The provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) Each closed vent system subject to this paragraph shall be inspected according to the procedures specified in paragraphs (c)(1)(i) through (vii) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A, except as specified in this section.

(ii) Except as provided in (c)(1)(iii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 must be for the representative composition of the process fluid and not of each individual VOC in the stream. For process streams that contain nitrogen, air, water, or other inerts that are not organic HAP or VOC, the representative stream response factor must be determined on an inert-free basis. The response factor may be determined at any concentration for which the monitoring for leaks will be conducted.

(iii) If no instrument is available at the plant site that will meet the performance criteria of Method 21 specified in paragraph (c)(1)(ii) of this section, the instrument readings may be adjusted by multiplying by the representative
response factor of the process fluid, calculated on an inert-free basis as described in paragraph (c)(1)(ii) of this section.

(iv) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(v) Calibration gases shall be as specified in paragraphs (c)(1)(v)(A) through (C) of this section.

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (c)(1)(ii) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(C) If the detection instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,500 parts per million.

(vi) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects not to adjust readings for background, all such instrument readings shall be compared directly to 500 parts per million to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in this section. The owner or operator shall subtract the background reading from the maximum concentration indicated by the instrument.

(vii) If the owner or operator elects to adjust for background, the arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining whether there is a leak.

(2) The instrument probe shall be traversed around all potential leak interfaces as described in Method 21 of 40 CFR part 60, appendix A.

(3) Except as provided in paragraph (c)(4) of this section, inspections shall be performed when the equipment is in regulated material service, or in use with any other detectable gas or vapor.

(4) Inspections of the closed vent system collecting regulated material from a transfer rack shall be performed only while a tank truck or railcar is being loaded or is otherwise pressurized to normal operating conditions with regulated material or any other detectable gas or vapor.

(d) Closed vent system leak repair provisions. The provisions of this paragraph apply to closed vent systems collecting regulated material from a regulated source.

(1) If there are visible, audible, or olfactory indications of leaks at the time of the annual visual inspections required by paragraph (b)(1)(i)(B) of this section, the owner or operator shall follow the procedure specified in either paragraph (d)(1)(i) or (ii) of this section.

(i) The owner or operator shall eliminate the leak.

(ii) The owner or operator shall monitor the equipment according to the procedures in paragraph (c) of this section.

(2) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practical, except as provided in paragraph (d)(3) of this section. Records shall be generated as specified in § 63.998(d)(1)(iii) when a leak is detected.

(i) A first attempt at repair shall be made no later than 5 days after the leak is detected.
(ii) Except as provided in paragraph (d)(3) of this section, repairs shall be completed no later than 15 days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.

(3) Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible or unsafe without a closed vent system shutdown, as defined in § 63.981, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but not later than the end of the next closed vent system shutdown.

[64 FR 34866, June 29, 1999, as amended at 64 FR 63705, Nov. 22, 1999; 67 FR 46277, July 12, 2002]

§ 63.984 Fuel gas systems and processes to which storage vessel, transfer rack, or equipment leak regulated material emissions are routed.

(a) Equipment and operating requirements for fuel gas systems and processes. (1) Except during periods of start-up, shutdown and malfunction as specified in the referencing subpart, the fuel gas system or process shall be operating at all times when regulated material emissions are routed to it.

(2) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack’s system returning vapors to a fuel gas system or process shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(b) Fuel gas system and process compliance assessment. (1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation.

(2) If emissions are routed to a process, the regulated material in the emissions shall meet one or more of the conditions specified in paragraphs (b)(2)(i) through (iv) of this section. The owner or operator of storage vessels subject to this paragraph shall comply with the compliance demonstration requirements in paragraph (b)(3) of this section.

(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;

(ii) Transformed by chemical reaction into materials that are not regulated materials;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(3) To demonstrate compliance with paragraph (b)(2) of this section for a storage vessel, the owner or operator shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the conditions specified in paragraphs (b)(2)(i) through (iv) of this section are being met.

(c) Statement of connection. For storage vessels and transfer racks, the owner or operator shall submit the statement of connection reports for fuel gas systems specified in § 63.999(b)(1)(ii), as appropriate.

§ 63.985 Nonflare control devices used to control emissions from storage vessels and low throughput transfer racks.

(a) Nonflare control device equipment and operating requirements. The owner or operator shall operate and maintain the nonflare control device so that the monitored parameters defined as required in paragraph (c) of this section remain within the ranges specified in the Notification of Compliance Status whenever emissions of regulated material are routed to the control device except during periods of start-up, shutdown, and malfunction as specified in the referencing subpart.
(b) Nonflare control device design evaluation or performance test requirements. When using a control device other than a flare, the owner or operator shall comply with the requirements in paragraphs (b)(1)(i) or (ii) of this section, except as provided in paragraphs (b)(2) and (3) of this section.

(1) Design evaluation or performance test results. The owner or operator shall prepare and submit with the Notification of Compliance Status, as specified in § 63.999(b)(2), either a design evaluation that includes the information specified in paragraph (b)(1)(i) of this section, or the results of the performance test as described in paragraph (b)(1)(ii) of this section.

(i) Design evaluation. The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during the reasonably expected maximum storage vessel filling or transfer loading rate. This documentation is to include a description of the gas stream that enters the control device, including flow and regulated material content, and the information specified in paragraphs (b)(1)(i)(A) through (E) of this section, as applicable. For storage vessels, the description of the gas stream that enters the control device shall be provided for varying liquid level conditions. This documentation shall be submitted with the Notification of Compliance Status as specified in § 63.999(b)(2).

(A) The efficiency determination is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.

(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C is used to meet an emission reduction requirement specified in a referencing subpart for storage vessels and transfer racks, documentation that those conditions exist is sufficient to meet the requirements of paragraph (b)(1)(i) of this section.

(C) Except as provided in paragraph (b)(1)(i)(B) of this section for enclosed combustion devices, the design evaluation shall include the estimated autoignition temperature of the stream being combusted, the flow rate of the stream, the combustion temperature, and the residence time at the combustion temperature.

(D) For carbon adsorbers, the design evaluation shall include the estimated affinity of the regulated material vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity, the temperature, the flow rate of the inlet stream and, if applicable, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.

(E) For condensers, the design evaluation shall include the final temperature of the stream vapors, the type of condenser, and the design flow rate of the emission stream.

(ii) Performance test. A performance test, whether conducted to meet the requirements of this section, or to demonstrate compliance for a process vent or high throughput transfer rack as required by § 63.988(b), § 63.990(b), or § 63.995(b), is acceptable to demonstrate compliance with emission reduction requirements for storage vessels and transfer racks. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (b)(1)(i) of this section if a performance test will be performed that meets the criteria specified in paragraphs (b)(1)(ii)(A) and (B) of this section.

(A) The performance test will demonstrate that the control device achieves greater than or equal to the required control device performance level specified in a referencing subpart for storage vessels or transfer racks; and

(B) The performance test meets the applicable performance test requirements and the results are submitted as part of the Notification of Compliance Status as specified in § 63.999(b)(2).

(2) Exceptions. A design evaluation or performance test is not required if the owner or operator uses a combustion device meeting the criteria in paragraph (b)(2)(i), (ii), (iii), or (iv) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts (150 million British thermal units per hour) or greater.

(ii) A boiler or process heater burning hazardous waste for which the owner or operator meets the requirements specified in paragraph (b)(2)(ii)(A) or (B) of this section.
(A) The boiler or process heater has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(B) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) A hazardous waste incinerator for which the owner or operator meets the requirements specified in paragraph (b)(2)(iii)(A) or (B) of this section.

(A) The incinerator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O; or

(B) The incinerator has certified compliance with the interim status requirements of 40 CFR part 265, subpart O; or

(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel.

(3) Prior design evaluations or performance tests. If a design evaluation or performance test is required in the referencing subpart or was previously conducted and submitted for a storage vessel or low throughput transfer rack, then a performance test or design evaluation is not required.

(c) Nonflare control device monitoring requirements. (1) The owner or operator shall submit with the Notification of Compliance Status, a monitoring plan containing the information specified in § 63.999(b)(2)(i) and (ii) to identify the parameters that will be monitored to assure proper operation of the control device.

(2) The owner or operator shall monitor the parameters specified in the Notification of Compliance Status or in the operating permit application or amendment. Records shall be generated as specified in § 63.998(d)(2)(i).

§ 63.986 Nonflare control devices used for equipment leaks only.

(a) Equipment and operating requirements. (1) Owners or operators using a nonflare control device to meet the applicable requirements of a referencing subpart for equipment leaks shall meet the requirements of this section.

(2) Control devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) Performance test requirements. A performance test is not required for any nonflare control device used only to control emissions from equipment leaks.

(c) Monitoring requirements. Owners or operators of control devices that are used to comply only with the provisions of a referencing subpart for control of equipment leak emissions shall monitor these control devices to ensure that they are operated and maintained in conformance with their design. The owner or operator shall maintain the records as specified in § 63.998(d)(4).

§ 63.987 Flare requirements.

(a) Flare equipment and operating requirements. Flares subject to this subpart shall meet the performance requirements in 40 CFR 63.11(b) (General Provisions).

(b) Flare compliance assessment. (1) The owner or operator shall conduct an initial flare compliance assessment of any flare used to comply with the provisions of this subpart. Flare compliance assessment records shall be kept as specified in § 63.998(a)(1) and a flare compliance assessment report shall be submitted as specified in § 63.999(a)(2). An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet regulated material or total organic compound concentration when a flare is used.

(2) [Reserved]
(3) Flare compliance assessments shall meet the requirements specified in paragraphs (b)(3)(i) through (iv) of this section.

(i) Method 22 of appendix A of part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours, except for transfer racks as provided in (b)(3)(i)(A) or (B) of this section.

(A) For transfer racks, if the loading cycle is less than 2 hours, then the observation period for that run shall be for the entire loading cycle.

(B) For transfer racks, if additional loading cycles are initiated within the 2-hour period, then visible emissions observations shall be conducted for the additional cycles.

(ii) The net heating value of the gas being combusted in a flare shall be calculated using Equation 1:

\[ H_T = K_1 \sum_{j=1}^{n} D_j H_j \]  

Where:

\( H_T \) = Net heating value of the sample, megajoules per standard cubic meter; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 millimeters of mercury (30 inches of mercury), but the standard temperature for determining the volume corresponding to one mole is 20 °C;

\( K_1 = 1.740 \times 10^{-7} \) (parts per million by volume\(^{-1}\) (gram-mole per standard cubic meter) (megajoules per kilocalories), where the standard temperature for gram mole per standard cubic meter is 20 °C;

\( n \) = number of sample components;

\( D_j \) = Concentration of sample component j, in parts per million by volume on a wet basis, as measured for organics by Method 18 of 40 CFR part 60, appendix A, or by American Society for Testing and Materials (ASTM) D6420-99 (available for purchase from at least one of the following addresses: 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106) under the conditions specified in § 63.997(e)(2)(iii)(D) through (3). Hydrogen and carbon monoxide are measured by ASTM D1946-90; and

\( H_j \) = Net heat of combustion of sample component j, kilocalories per gram mole at 25 °C and 760 millimeters of mercury (30 inches of mercury).

(iii) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in unit of standard temperature and pressure), as determined by Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, as appropriate, by the unobstructed (free) cross sectional area of the flare tip.

(iv) Flare flame or pilot monitors, as applicable, shall be operated during any flare compliance assessment.

(c) **Flare monitoring requirements.** Where a flare is used, the following monitoring equipment is required: a device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present. Flare flame monitoring and compliance records shall be kept as specified in § 63.998(a)(1) and reported as specified in § 63.999(a).

[64 FR 34866, June 29, 1999, as amended at 64 FR 63705, Nov. 22, 1999; 67 FR 46277, July 12, 2002]
§ 63.988 Incinerators, boilers, and process heaters.

(a) Equipment and operating requirements. (1) Owners or operators using incinerators, boilers, or process heaters to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Incinerators, boilers, or process heaters used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(3) For boilers and process heaters, the vent stream shall be introduced into the flame zone of the boiler or process heater.

(b) Performance test requirements. (1) Except as specified in § 63.997(b), and paragraph (b)(2) of this section, the owner or operator shall conduct an initial performance test of any incinerator, boiler, or process heater used to comply with the provisions of a referencing subpart and this subpart according to the procedures in § 63.997. Performance test records shall be kept as specified in § 63.998(a)(2) and a performance test report shall be submitted as specified in § 63.998(b)(2). As provided in § 63.985(b)(1), a design evaluation may be used as an alternative to the performance test for storage vessels and low throughput transfer rack controls. As provided in § 63.986(b), no performance test is required for equipment leaks.

(2) An owner or operator is not required to conduct a performance test when any of the control devices specified in paragraphs (b)(2)(i) through (iv) of this section are used.

(i) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O;

(ii) A boiler or process heater with a design heat input capacity of 44 megawatts (150 million British thermal units per hour) or greater;

(iii) A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel;

(iv) A boiler or process heater burning hazardous waste for which the owner or operator meets the requirements specified in paragraph (b)(2)(iv)(A) or (B) of this section.

(A) The boiler or process heater has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(B) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(c) Incinerator, boiler, and process heater monitoring requirements. Where an incinerator, boiler, or process heater is used, a temperature monitoring device capable of providing a continuous record that meets the provisions specified in paragraph (c)(1), (2), or (3) of this section is required. Any boiler or process heater in which all vent streams are introduced with primary fuel or are used as the primary fuel is exempt from monitoring. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in the referencing subpart and § 3.996.

(1) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the fire box or in the ductwork immediately downstream of the fire box in a position before any substantial heat exchange occurs.

(2) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.
(3) Where a boiler or process heater of less than 44 megawatts (150 million British thermal units per hour) design heat input capacity is used and the regulated vent stream is not introduced as or with the primary fuel, a temperature monitoring device shall be installed in the fire box.

§ 63.989  [Reserved]

§ 63.990  Absorbers, condensers, and carbon adsorbers used as control devices.

(a) Equipment and operating requirements. (1) Owners or operators using absorbers, condensers, or carbon adsorbers to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Absorbers, condensers, and carbon adsorbers used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) Performance test requirements. Except as specified in § 63.997(b), the owner or operator shall conduct an initial performance test of any absorber, condenser, or carbon adsorber used as a control device to comply with the provisions of the referencing subpart and this subpart according to the procedures in § 63.997. Performance test records shall be kept as specified in § 63.998(a)(2) and a performance test report shall be submitted as specified in § 63.999(a)(2). As provided in § 63.985(b)(1), a design evaluation may be used as an alternative to the performance test for storage vessels and low throughput transfer rack controls. As provided in § 63.986(b), no performance test is required to demonstrate compliance for equipment leaks.

(c) Monitoring requirements. Where an absorber, condenser, or carbon adsorber is used as a control device, either an organic monitoring device capable of providing a continuous record, or the monitoring devices specified in paragraphs (c)(1) through (3), as applicable, shall be used. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(1) Where an absorber is used, a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record, shall be used. If the difference between the specific gravity of the saturated scrubbing fluid and specific gravity of the fresh scrubbing fluid is less than 0.02 specific gravity units, an organic monitoring device capable of providing a continuous record shall be used.

(2) Where a condenser is used, a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used.

(3) Where a carbon adsorber is used, an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent or better, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle, shall be used.

§ 63.991  [Reserved]

§ 63.992  Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(1) Approval of alternatives to the nonopacity emissions standards in §§ 63.983(a) and (d), 63.984, 63.985(a), 63.986(a), 63.987(a), 63.988(a), 63.990(a), 63.993(a), 63.994(a), and 63.995(a) under § 63.6(g). Where these
standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) [Reserved]

(3) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(4) Approval of major changes to monitoring under § 63.8(f) and as defined in § 63.90.

(5) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.993 Absorbers, condensers, carbon adsorbers and other recovery devices used as final recovery devices.

(a) Final recovery device equipment and operating requirements. (1) Owners or operators using a final recovery device to maintain a TRE above a level specified in a referencing subpart shall meet the requirements of this section.

(2) Recovery devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) Recovery device performance test requirements. There are no performance test requirements for recovery devices. TRE index value determination information shall be recorded as specified in § 63.998(a)(3).

(c) Recovery device monitoring requirements. (1) Where an absorber is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, an organic monitoring device capable of providing a continuous record or a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record, shall be used. If the difference between the specific gravity of the saturated scrubbing fluid and specific gravity of the fresh scrubbing fluid is less than 0.02 specific gravity units, an organic monitoring device capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in § 63.996.

(2) Where a condenser is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, an organic monitoring device capable of providing a continuous record or a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(3) Where a carbon adsorber is the final recovery device in the recovery system and the TRE index value is between the level specified in a referencing subpart and 4.0, an organic monitoring device capable of providing a continuous record or an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent or better, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle; and a carbon-bed temperature monitoring device, capable of recording the carbon-bed temperature after each regeneration and within 15 minutes of completing any cooling cycle shall be used. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(4) If an owner or operator uses a recovery device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, reporting and recordkeeping procedures as specified in a referencing subpart. The Administrator will approve, deny, or modify based on the reasonableness of the proposed monitoring, reporting and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.
§ 63.994  Halogen scrubbers and other halogen reduction devices.

(a) Halogen scrubber and other halogen reduction device equipment and operating requirements. (1) An owner or operator of a halogen scrubber or other halogen reduction device subject to this subpart shall reduce the overall emissions of hydrogen halides and halogens by the control device performance level specified in a referencing subpart.

(2) Halogen scrubbers and other halogen reduction devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) Halogen scrubber and other halogen reduction device performance test requirements. (1) An owner or operator of a combustion device followed by a halogen scrubber or other halogen reduction device to control halogenated vent streams in accordance with a referencing subpart and this subpart shall conduct an initial performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens according to the procedures in § 63.997. Performance test records shall be kept as specified in § 63.998(a)(2) and a performance test report shall be submitted as specified in § 63.999(a)(2).

(2) An owner or operator of a halogen scrubber or other halogen reduction technique used to reduce the vent stream halogen atom mass emission rate prior to a combustion device to comply with a performance level specified in a referencing subpart shall determine the halogen atom mass emission rate prior to the combustion device according to the procedures specified in the referencing subpart. Records of the halogen concentration in the vent stream shall be generated as specified in § 63.998(a)(4).

(c) Halogen scrubber and other halogen reduction device monitoring requirements. (1) Where a halogen scrubber is used, the monitoring equipment specified in paragraphs (c)(1)(i) and (ii) of this section is required for the scrubber. Monitoring results shall be recorded as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring and continuous parameter monitoring systems are contained in a referencing subpart and § 63.996.

(i) A pH monitoring device capable of providing a continuous record shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter capable of providing a continuous record shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in paragraphs (c)(1)(ii)(A) through (D) of this section.

(A) The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop.

(B) The owner or operator may measure the gas stream flow at the scrubber inlet.

(C) If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for the process unit of which it is part as specified in a referencing subpart, the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to that compliance date may be utilized to comply with this subpart if it is still representative.

(D) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method that will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method that will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than start-ups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in a referencing subpart.

(2) Where a halogen reduction device other than a scrubber is used, the owner or operator shall follow the procedures specified in a referencing subpart in order to establish monitoring parameters.
§ 63.995 Other control devices.

(a) Other control device equipment and operating requirements. (1) Owners or operators using a control device other than one listed in §§ 63.985 through 63.990 to meet a weight-percent emission reduction or parts per million by volume outlet concentration requirement specified in a referencing subpart shall meet the requirements of this section.

(2) Other control devices used to comply with the provisions of a referencing subpart and this subpart shall be operated at all times when emissions are vented to them.

(b) Other control device performance test requirements. An owner or operator using a control device other than those specified in §§ 63.987 through 63.990 to comply with a performance level specified in a referencing subpart, shall perform an initial performance test according to the procedures in § 63.997. Performance test records shall be kept as specified in § 63.998(a)(2) and a performance test report shall be submitted as specified in § 63.999(a)(2).

(c) Other control device monitoring requirements. If an owner or operator uses a control device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, recordkeeping and reporting procedures as specified in a referencing subpart. The Administrator will approve, deny, or modify based on the reasonableness of the proposed monitoring, reporting and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.

§ 63.996 General monitoring requirements for control and recovery devices.

(a) General monitoring requirements applicability. (1) This section applies to the owner or operator of a regulated source required to monitor under this subpart.

(2) Flares subject to § 63.987(c) are not subject to the requirements of this section.

(3) Flow indicators are not subject to the requirements of this section.

(b) Conduct of monitoring. (1) Monitoring shall be conducted as set forth in this section and in the relevant sections of this subpart unless the provision in either paragraph (b)(1)(i) or (ii) of this section applies.

(i) The Administrator specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures; or

(ii) The Administrator approves the use of alternatives to any monitoring requirements or procedures as provided in the referencing subpart or paragraph (d) of this section.

(2) When one CPMS is used as a backup to another CPMS, the owner or operator shall report the results from the CPMS used to meet the monitoring requirements of this subpart. If both such CPMS's are used during a particular reporting period to meet the monitoring requirements of this subpart, then the owner or operator shall report the results from each CPMS for the time during the six month period that the instrument was relied upon to demonstrate compliance.

(c) Operation and maintenance of continuous parameter monitoring systems. (1) All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(2) The owner or operator of a regulated source shall maintain and operate each CPMS as specified in this section, or in a relevant subpart, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of a regulated source shall ensure the immediate repair or replacement of CPMS parts to correct “routine” or otherwise predictable CPMS malfunctions. The necessary parts for routine repairs of the affected equipment shall be readily available.
(ii) If under the referencing subpart, an owner or operator has developed a start-up, shutdown, and malfunction plan, the plan is followed, and the CPMS is repaired immediately, this action shall be recorded as specified in § 63.998(c)(1)(ii)(E).

(iii) The Administrator's determination of whether acceptable operation and maintenance procedures are being used for the CPMS will be based on information that may include, but is not limited to, review of operation and maintenance procedures, operation and maintenance records as specified in § 63.998(c)(1)(i) and (ii), manufacturer's recommendations and specifications, and inspection of the CPMS.

(3) All CPMS's shall be installed and operational, and the data verified as specified in this subpart either prior to or in conjunction with conducting performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(4) All CPMS's shall be installed such that representative measurements of parameters from the regulated source are obtained.

(5) In accordance with the referencing subpart, except for system breakdowns, repairs, maintenance periods, instrument adjustments, or checks to maintain precision and accuracy, calibration checks, and zero and span adjustments, all continuous parameter monitoring systems shall be in continuous operation when emissions are being routed to the monitored device.

(6) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the control or recovery device. In order to establish the range, the information required in § 63.999(b)(3) shall be submitted in the Notification of Compliance Status or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 63.997(b)(1) or a prior TRE index value determination, as applicable, or upon existing ranges or limits established under a referencing subpart. Where the regeneration stream flow and carbon bed temperature are monitored, the range shall be in terms of the total regeneration stream flow per regeneration cycle and the temperature of the carbon bed determined within 15 minutes of the completion of the regeneration cooling cycle.

(d) Alternatives to monitoring requirements — (1) Alternatives to the continuous operating parameter monitoring and recordkeeping provisions. An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§ 63.988(c), 63.990(c), 63.993(c), 63.994(c), 63.998(a)(2) through (4), 63.998(c)(2) and (3), as specified in § 63.999(d)(1).

(2) Monitoring a different parameter than those listed. An owner or operator may request approval to monitor a different parameter than those established in paragraph (c)(6) of this section or to set unique monitoring parameters if directed by § 63.994(c)(2) or § 63.995(c), as specified in § 63.999(d)(2).

§ 63.997 Performance test and compliance assessment requirements for control devices.

(a) Performance tests and flare compliance assessments. Where §§ 63.985 through 63.995 require, or the owner or operator elects to conduct, a performance test of a control device or a halogen reduction device, or a compliance assessment for a flare, the requirements of paragraphs (b) through (d) of this section apply.

(b) Prior test results and waivers. Initial performance tests and initial flare compliance assessments are required only as specified in this subpart or a referencing subpart.

(1) Unless requested by the Administrator, an owner or operator is not required to conduct a performance test or flare compliance assessment under this subpart if a prior performance test or compliance assessment was conducted using the same methods specified in § 63.997(e) or § 63.987(b)(3), as applicable, and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test or compliance demonstration, with or without adjustments, reliably demonstrate compliance despite process changes. An owner or operator may request permission to substitute a prior performance test or compliance assessment by written application to the Administrator as specified in § 63.999(a)(1)(iv).
(2) Individual performance tests and flare compliance assessments may be waived upon written application to the Administrator, per § 63.999(a)(1)(iii), if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, the source is being operated under an extension or waiver of compliance, or the owner or operator has requested an extension or waiver of compliance and the Administrator is still considering that request.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notification is given to the owner or operator of the source.

(2) The Administrator may require an owner or operator to conduct performance tests and compliance assessments at the regulated source at any time when the action is authorized by section 114 of the Act.

(3) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a recovery device to replace an existing control device at a later date, or elects to use a different flare, nonflare control device or recovery device to replace an existing flare, nonflare control device or final recovery device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 63.999(c)(7) before implementing the change. Upon implementing the change, a compliance demonstration or performance test shall be performed according to the provisions of paragraphs (c)(3)(i) through (v) of this section, as applicable, within 180 days. The compliance
assessment report shall be submitted to the Administrator within 60 days of completing the determination, as provided in § 63.999(a)(1)(ii).

(i) For flares used to replace an existing control device, a flare compliance demonstration shall be performed using the methods specified in § 63.987(b);

(ii) For flares used to replace an existing final recovery device that is used on an applicable process vent, the owner or operator shall comply with the applicable provisions in a referencing subpart and in this subpart;

(iii) For incinerators, boilers, or process heaters used to replace an existing control device, a performance test shall be performed, using the methods specified in § 63.997;

(iv) For absorbers, condensers, or carbon adsorbers used to replace an existing control device on a process vent or a transfer rack, a performance test shall be performed, using the methods specified in § 63.997;

(v) For absorbers, condensers, or carbon adsorbers used to replace an existing final recovery device on a process vent, the owner or operator shall comply with the applicable provisions of a referencing subpart and this subpart;

(d) Performance testing facilities. If required to do performance testing, the owner or operator of each new regulated source and, at the request of the Administrator, the owner or operator of each existing regulated source, shall provide performance testing facilities as specified in paragraphs (d)(1) through (5) of this section.

(1) Sampling ports adequate for test methods applicable to such source. This includes, as applicable, the requirements specified in (d)(1)(i) and (ii) of this section.

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) Performance test procedures. Where §§ 63.985 through 63.995 require the owner or operator to conduct a performance test of a control device or a halogen reduction device, the owner or operator shall follow the requirements of paragraphs (e)(1)(i) through (v) of this section, as applicable.

(1) General procedures. (i) Continuous unit operations. For continuous unit operations, performance tests shall be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. During the performance test, an owner or operator may operate the control or halogen reduction device at maximum or minimum representative operating conditions for monitored control or halogen reduction device parameters, whichever results in lower emission reduction. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(ii) [Reserved]

(iii) Combination of both continuous and batch unit operations. For a combination of both continuous and batch unit operations, performance tests shall be conducted at maximum representative operating conditions. For the purpose of conducting a performance test on a combined vent stream, maximum representative operating conditions shall be
when batch emission episodes are occurring that result in the highest organic HAP emission rate (for the combined vent stream) that is achievable during the 6-month period that begins 3 months before and ends 3 months after the compliance assessment (e.g. TRE calculation, performance test) without causing any of the situations described in paragraphs (e)(1)(iii)(A) through (C) of this section.

(A) Causing damage to equipment;

(B) Necessitating that the owner or operator make product that does not meet an existing specification for sale to a customer; or

(C) Necessitating that the owner or operator make product in excess of demand.

(iv) Alternatives to performance test requirements. Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this subpart, in each relevant standard, and, if required, in applicable appendices of 40 CFR parts 51, 60, 61, and 63 unless the Administrator specifies one of the provisions in paragraphs (e)(1)(iv)(A) through (E) of this section.

(A) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology; or

(B) Approves the use of an alternative test method, the results of which the Administrator has determined to be adequate for indicating whether a specific regulated source is in compliance. The alternate method or data shall be validated using the applicable procedures of Method 301 of appendix A of 40 CFR part 63; or

(C) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors; or

(D) Waives the requirement for the performance test as specified in paragraph (b)(2) of this section because the owner or operator of a regulated source has demonstrated by other means to the Administrator's satisfaction that the regulated source is in compliance with the relevant standard; or

(E) Approves the use of an equivalent method.

(v) Performance test runs. Except as provided in paragraphs (e)(1)(v)(A) and (B) of this section, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for at least 1 hour and under the conditions specified in this section. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(A) For control devices used to control emissions from transfer racks (except low throughput transfer racks that are capable of continuous vapor processing but do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously), each run shall represent at least one complete tank truck or tank car loading period, during which regulated materials are loaded, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(B) For intermittent vapor processing systems used for controlling transfer rack emissions (except low throughput transfer racks that do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously), each run shall represent at least one complete control device cycle, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(2) Specific procedures. Where §§ 63.985 through 63.995 require the owner or operator to conduct a performance test of a control device, or a halogen reduction device, an owner or operator shall conduct that performance test using the procedures in paragraphs (e)(2)(i) through (iv) of this section, as applicable. The regulated material concentration and percent reduction may be measured as either total organic regulated material or as TOC minus methane and ethane according to the procedures specified.
Selection of sampling sites. Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites.

(A) For determination of compliance with a percent reduction requirement of total organic regulated material or TOC, sampling sites shall be located as specified in paragraphs (e)(2)(i)(A)(1) and (e)(2)(i)(A)(2) of this section, and at the outlet of the control device.

(1) With the exceptions noted below in paragraphs (e)(2)(i)(A)(2) and (3), the control device inlet sampling site shall be located at the exit from the unit operation before any control device.

(2) For process vents from continuous unit operations at affected sources in subcategories where the applicability criteria includes a TRE index value, the control device inlet sampling site shall be located after the final recovery device.

(3) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic regulated material or TOC (minus methane and ethane) concentrations, as applicable, in all vent streams and primary and secondary fuels introduced into the boiler or process heater.

(B) For determination of compliance with a parts per million by volume total regulated material or TOC limit in a referencing subpart, the sampling site shall be located at the outlet of the control device.

Gas volumetric flow rate. The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, as appropriate.

Total organic regulated material or TOC concentration. To determine compliance with a parts per million by volume total organic regulated material or TOC limit, the owner or operator shall use Method 18 or 25A of 40 CFR part 60, appendix A, as applicable. The ASTM D6420-99 may be used in lieu of Method 18 of 40 CFR part 60, appendix A, under the conditions specified in paragraphs (e)(2)(iii)(D)(1) through (3) of this section. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63 may be used. The procedures specified in paragraphs (e)(2)(iii)(A), (B), (D), and (E) of this section shall be used to calculate parts per million by volume concentration. The calculated concentration shall be corrected to 3 percent oxygen using the procedures specified in paragraph (e)(2)(iii)(C) of this section if a combustion device is the control device and supplemental combustion air is used to combust the emissions.

Sampling time. For continuous unit operations and for a combination of both continuous and batch unit operations, the minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

Concentration calculation. The concentration of either TOC (minus methane or ethane) or total organic regulated material shall be calculated according to paragraph (e)(2)(iii)(B) (1) or (2) of this section.

(1) The TOC concentration (CTOC) is the sum of the concentrations of the individual components and shall be computed for each run using Equation 2.

\[
CTOC = \sum_{i=1}^{x} \frac{\sum_{j=1}^{n} C_{ij}}{x} \quad [Eq. 2]
\]

Where:

\[CTOC = \text{Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.}\]
\[x = \text{Number of samples in the sample run.}\]
\( n \) = Number of components in the sample.

\( C_{ij} \) = Concentration of sample components \( j \) of sample \( I \), dry basis, parts per million by volume.

(2) The total organic regulated material \( (C_{REG}) \) shall be computed according to Equation 2 in paragraph (e)(2)(iii)(B)(1) of this section except that only the regulated species shall be summed.

(C) Concentration correction calculation. The concentration of TOC or total organic regulated material, as applicable, shall be corrected to 3 percent oxygen if a combustion device is the control device and supplemental combustion air is used to combust the emissions.

(1) The emission rate correction factor (or excess air), integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, or American Society of Mechanical Engineers (ASME) PTC 19-10-1981-Part 10 (available for purchase from: ASME International, Three Park Avenue, New York, NY 10016-5990, 800-843-2763 or 212-591-7722), shall be used to determine the oxygen concentration. The sampling site shall be the same as that of the organic regulated material or organic compound samples, and the samples shall be taken during the same time that the organic regulated material or organic compound samples are taken.

(2) The concentration corrected to 3 percent oxygen \( (C_c) \) shall be computed using Equation 3.

\[
C_c = C_m \left( \frac{17.9}{20.9 - %O_{2d}} \right) \quad [\text{Eq. 3}]
\]

Where:

\( C_c \) = Concentration of TOC or organic regulated material corrected to 3 percent oxygen, dry basis, parts per million by volume.

\( C_m \) = Concentration of TOC (minus methane and ethane) or organic regulated material, dry basis, parts per million by volume.

\( %O_{2d} \) = Concentration of oxygen, dry basis, percentage by volume.

(D) To measure the total organic regulated material concentration at the outlet of a control device, use Method 18 of 40 CFR part 60, appendix A, or ASTM D6420-99. If you have a combustion control device, you must first determine which regulated material compounds are present in the inlet gas stream using process knowledge or the screening procedure described in Method 18. In conducting the performance test, analyze samples collected at the outlet of the combustion control device as specified in Method 18 or ASTM D6420-99 for the regulated material compounds present at the inlet of the control device. The method ASTM D6420-99 may be used only under the conditions specified in paragraphs (e)(2)(iii)(D)(1) through (3) of this section.

(1) If the target compound(s) is listed in Section 1.1 of ASTM D6420-99 and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume.

(2) If the target compound(s) is not listed in Section 1.1 of ASTM D6420-99 but is potentially detected by mass spectrometry, an additional system continuing calibration check after each run, as detailed in Section 10.5.3 of ASTM D6420-99, must be followed, met, documented, and submitted with the performance test report even if you do not use a moisture condenser or the compound is not considered soluble.

(3) If a minimum of one sample/analysis cycle is completed at least every 15 minutes.

(E) To measure the TOC concentration, use Method 18 of 40 CFR part 60, appendix A, or use Method 25A of 40 CFR part 60, appendix A, according to the procedures in paragraphs (e)(2)(iii)(E)(1) through (4) of this section.

(1) Calibrate the instrument on the predominant regulated material compound.
(2) The test results are acceptable if the response from the high level calibration gas is at least 20 times the standard deviation for the response from the zero calibration gas when the instrument is zeroed on its most sensitive scale.

(3) The span value of the analyzer must be less than 100 parts per million by volume.

(4) Report the results as carbon, calculated according to Equation 25A-1 of Method 25A of 40 CFR part 60, appendix A.

(iv) Percent reduction calculation. To determine compliance with a percent reduction requirement, the owner or operator shall use Method 18, 25, or 25A of 40 CFR part 60, appendix A, as applicable. The method ASTM D6420-99 may be used in lieu of Method 18 of 40 CFR part 60, appendix A, under the conditions specified in paragraphs (e)(2)(iii)(D)(1) through (3) of this section. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63 may be used. The procedures specified in paragraphs (e)(2)(iv)(A) through (I) of this section shall be used to calculate percent reduction efficiency.

(A) Sampling time. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(B) Mass rate of TOC or total organic regulated material. The mass rate of either TOC (minus methane and ethane) or total organic regulated material (ETOC) shall be computed as applicable.

(1) Equations 4 and 5 shall be used.

\[
E_i = K_2 \left( \sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i \quad [Eq. 4] \quad E_o = K_2 \left( \sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o \quad [Eq. 5]
\]

Where:

\(E_i, E_o\) = Emission rate of TOC (minus methane and ethane) (ETOC) or emission rate of total organic regulated material (ERM) in the sample at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

\(K_2 = \text{Constant, } 2.494 \times 10^{-6} \text{ (parts per million)}^{-1} \text{ (gram-mole per standard cubic meter)} \times \text{ (kilogram per gram)} \times \text{ (minute per hour)}, \text{ where standard temperature (gram-mole per standard cubic meter) is } 20^\circ \text{C.}\)

\(n = \text{Number of components in the sample.}\)

\(C_{ij}, C_{oj} = \text{Concentration on a dry basis of organic compound } j \text{ in parts per million by volume of the gas stream at the inlet and outlet of the control device, respectively. If the TOC emission rate is being calculated, } C_{ij} \text{ and } C_{oj} \text{ include all organic compounds measured minus methane and ethane; if the total organic regulated material emissions rate is being calculated, only organic regulated material are included.}\)

\(M_{ij}, M_{oj} = \text{Molecular weight of organic compound } j \text{, gram per gram-mole, of the gas stream at the inlet and outlet of the control device, respectively.}\)

\(Q_i, Q_o = \text{Process vent flow rate, dry standard cubic meter per minute, at a temperature of } 20^\circ \text{C, at the inlet and outlet of the control device, respectively.}\)

(2)-(3) [Reserved]

(C) Percent reduction in TOC or total organic regulated material for continuous unit operations and a combination of both continuous and batch unit operations. For continuous unit operations and for a combination of both continuous and batch unit operations, the percent reduction in TOC (minus methane and ethane) or total organic regulated material shall be calculated using Equation 6.
Where:

\[
R = \frac{E_o - E_i}{E_i} \times 100 \quad [Eq. 6]
\]

Where:

\( R \) = Control efficiency of control device, percent.

\( E_i \) = Mass rate of TOC (minus methane and ethane) or total organic regulated material at the inlet to the control device as calculated under paragraph (e)(2)(iv)(B) of this section, kilograms TOC per hour or kilograms organic regulated material per hour.

\( E_o \) = Mass rate of TOC (minus methane and ethane) or total organic regulated material at the outlet of the control device, as calculated under paragraph (e)(2)(iv)(B) of this section, kilograms TOC per hour or kilograms total organic regulated material per hour.

(D) Vent stream introduced with combustion air or as secondary fuel. If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total organic regulated material or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total organic regulated material in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total organic regulated material exiting the combustion device, respectively.

(E) Transfer racks. Method 25A of 40 CFR part 60, appendix A, may also be used for the purpose of determining compliance with the percent reduction requirement for transfer racks.

(1) If Method 25A of 40 CFR part 60, appendix A, is used to measure the concentration of organic compounds (CTOC), the principal organic regulated material in the vent stream shall be used as the calibration gas.

(2) An emission testing interval shall consist of each 15-minute period during the performance test. For each interval, a reading from each measurement shall be recorded.

(3) The average organic compound concentration and the volume measurement shall correspond to the same emissions testing interval.

(4) The mass at the inlet and outlet of the control device during each testing interval shall be calculated using Equation 7.

\[
M_j = FKV_j C_j \quad [Eq. 7]
\]

Where:

\( M_j \) = Mass of organic compounds emitted during testing interval \( j \), kilograms.

\( F = 10^{-6} \) = Conversion factor, (cubic meters regulated material per cubic meters air) * (parts per million by volume)\(^{-1}\).

\( K \) = Density, kilograms per standard cubic meter organic regulated material.

\( = 659 \) kilograms per standard cubic meter organic regulated material. (Note: The density term cancels out when the percent reduction is calculated. Therefore, the density used has no effect. The density of hexane is given so that it can be used to maintain the units of \( M_j \).)

\( V_s \) = Volume of air-vapor mixture exhausted at standard conditions, 20 °C and 760 millimeters mercury, standard cubic meters.
C_t = Total concentration of organic compounds (as measured) at the exhaust vent, parts per million by volume, dry basis.

(5) The organic compound mass emission rates at the inlet and outlet of the control device shall be calculated using Equations 8 and 9 as follows:

\[ E_i = \frac{\sum_{j=1}^{n} M_{ij}}{T} \]  \[ Eq. 8 \] \[ E_o = \frac{\sum_{j=1}^{n} M_{oj}}{T} \]  \[ Eq. 9 \]

Where:

\( E_i, E_o \) = Mass flow rate of organic compounds at the inlet (i) and outlet (o) of the control device, kilograms per hour.

\( n \) = Number of testing intervals.

\( M_{ij}, M_{oj} \) = Mass of organic compounds at the inlet (i) or outlet (o) during testing interval j, kilograms.

\( T \) = Total time of all testing intervals, hours.

(F) To measure inlet and outlet concentrations of total organic regulated material, use Method 18 of 40 CFR part 60, appendix A, or ASTM D6420-99, under the conditions specified in paragraphs (e)(2)(iii)(D)(1) through (3) of this section. In conducting the performance test, collect and analyze samples as specified in Method 18 or ASTM D6420-99. You must collect samples simultaneously at the inlet and outlet of the control device. If the performance test is for a combustion control device, you must first determine which regulated material compounds are present in the inlet gas stream (i.e., uncontrolled emissions) using process knowledge or the screening procedure described in Method 18. Quantify the emissions for the regulated material compounds present in the inlet gas stream for both the inlet and outlet gas streams for the combustion device.

(G) To determine inlet and outlet concentrations of TOC, use Method 25 of 40 CFR part 60, appendix A. Measure the total gaseous non-methane organic (TGNMO) concentration of the inlet and outlet vent streams using the procedures of Method 25. Use the TGNMO concentration in Equations 4 and 5 of paragraph (e)(2)(iv)(B) of this section.

(H) Method 25A of 40 CFR part 60, appendix A, may be used instead of Method 25 to measure inlet and outlet concentrations of TOC if the condition in either paragraph (e)(2)(iv)(H)(1) or (2) of this section is met.

(1) The concentration at the inlet to the control system and the required level of control would result in exhaust TGNMO concentrations of 50 parts per million by volume or less.

(2) Because of the high efficiency of the control device, the anticipated TGNMO concentration of the control device exhaust is 50 parts per million by volume or less, regardless of the inlet concentration.

(I) If the uncontrolled or inlet gas stream to the control device contains formaldehyde, you must conduct emissions testing according to paragraph (e)(2)(iv)(I)(1) or (2) of this section.

(1) If you elect to comply with a percent reduction requirement and formaldehyde is the principal regulated material compound (i.e., greater than 50 percent of the regulated material compounds in the stream by volume), you must use Method 316 or 320 of 40 CFR part 63, appendix A, to measure formaldehyde at the inlet and outlet of the control device. Use the percent reduction in formaldehyde as a surrogate for the percent reduction in total regulated material emissions.

(2) If you elect to comply with an outlet total organic regulated material concentration or TOC concentration limit, and the uncontrolled or inlet gas stream to the control device contains greater than 10 percent (by volume) formaldehyde, you must use Method 316 or 320 of 40 CFR part 63, appendix A, to separately determine the formaldehyde concentration. Calculate the total organic regulated material concentration or TOC concentration by
totaling the formaldehyde emissions measured using Method 316 or 320 and the other regulated material compound emissions measured using Method 18 or 25/25A.

(3) An owner or operator using a halogen scrubber or other halogen reduction device to control process vent and transfer rack halogenated vent streams in compliance with a referencing subpart, who is required to conduct a performance test to determine compliance with a control efficiency or emission limit for hydrogen halides and halogens, shall follow the procedures specified in paragraphs (e)(3) (i) through (iv) of this section.

(i) For an owner or operator determining compliance with the percent reduction of total hydrogen halides and halogens, sampling sites shall be located at the inlet and outlet of the scrubber or other halogen reduction device used to reduce halogen emissions. For an owner or operator determining compliance with a kilogram per hour outlet emission limit for total hydrogen halides and halogens, the sampling site shall be located at the outlet of the scrubber or other halogen reduction device and prior to any releases to the atmosphere.

(ii) Except as provided in paragraph (e)(1)(iv) of this section, Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in milligrams per dry standard cubic meter, of total hydrogen halides and halogens that may be present in the vent stream. The mass emissions of each hydrogen halide and halogen compound shall be calculated from the measured concentrations and the gas stream flow rate.

(iii) To determine compliance with the percent removal efficiency, the mass emissions for any hydrogen halides and halogens present at the inlet of the halogen reduction device shall be summed together. The mass emissions of the compounds present at the outlet of the scrubber or other halogen reduction device shall be summed together. Percent reduction shall be determined by comparison of the summed inlet and outlet measurements.

(iv) To demonstrate compliance with a kilogram per hour outlet emission limit, the test results must show that the mass emission rate of total hydrogen halides and halogens measured at the outlet of the scrubber or other halogen reduction device is below the kilogram per hour outlet emission limit specified in a referencing subpart.

[64 FR 34866, June 29, 1999, as amended at 67 FR 46277, July 12, 2002]

§ 63.998 Recordkeeping requirements.

(a) Compliance assessment, monitoring, and compliance records —(1) Conditions of flare compliance assessment, monitoring, and compliance records. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of flare compliance assessments performed pursuant to § 63.987(b).

(i) Flare compliance assessment records. When using a flare to comply with this subpart, record the information specified in paragraphs (a)(1)(i)(A) through (C) of this section for each flare compliance assessment performed pursuant to § 63.987(b). As specified in § 63.999(a)(2)(iii)(A), the owner or operator shall include this information in the flare compliance assessment report.

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(B) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the flare compliance assessment; and

(C) All periods during the flare compliance assessment when all pilot flames are absent or, if only the flare flame is monitored, all periods when the flare flame is absent.

(ii) Monitoring records. Each owner or operator shall keep up to date and readily accessible hourly records of whether the monitor is continuously operating and whether the flare flame or at least one pilot flame is continuously present. For transfer racks, hourly records are required only while the transfer rack vent stream is being vented.

(iii) Compliance records. (A) Each owner or operator shall keep records of the times and duration of all periods during which the flare flame or all the pilot flames are absent. This record shall be submitted in the periodic reports as specified in § 63.999(c)(3).
(B) Each owner or operator shall keep records of the times and durations of all periods during which the monitor is not operating.

(2) Nonflare control device performance test records. (i) Availability of performance test records. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests performed pursuant to § 63.988(b), § 63.990(b), § 63.994(b), or § 63.995(b).

(ii) Nonflare control device and halogen reduction device performance test records.

(A) General requirements. Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the data specified in paragraphs (a)(2)(ii)(B) through (C) of this section, as applicable, measured during each performance test performed pursuant to § 63.988(b), § 63.990(b), § 63.994(b), or § 63.995(b), and also include that data in the Notification of Compliance Status required under § 63.999(b). The same data specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a combustion device, or the outlet concentration of TOC or regulated material is determined.

(B) Nonflare combustion device. Where an owner or operator subject to the provisions of this paragraph seeks to demonstrate compliance with a percent reduction requirement or a parts per million by volume requirement using a nonflare combustion device the information specified in (a)(2)(ii)(B)( 1 ) through ( 6 ) of this section shall be recorded.

( 1 ) For thermal incinerators, record the fire box temperature averaged over the full period of the performance test.

( 2 ) For catalytic incinerators, record the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test.

( 3 ) For a boiler or process heater with a design heat input capacity less than 44 megawatts and a vent stream that is not introduced with or as the primary fuel, record the fire box temperature averaged over the full period of the performance test.

( 4 ) For an incinerator, record the percent reduction of organic regulated material, if applicable, or TOC achieved by the incinerator determined as specified in § 63.997(e)(2)(iv), as applicable, or the concentration of organic regulated material (parts per million by volume, by compound) determined as specified in § 63.997(e)(2)(iii) at the outlet of the incinerator.

( 5 ) For a boiler or process heater, record a description of the location at which the vent stream is introduced into the boiler or process heater.

( 6 ) For a boiler or process heater with a design heat input capacity of less than 44 megawatts and where the process vent stream is introduced with combustion air or used as a secondary fuel and is not mixed with the primary fuel, record the percent reduction of organic regulated material or TOC, or the concentration of regulated material or TOC (parts per million by volume, by compound) determined as specified in § 63.997(e)(2)(iii) at the outlet of the combustion device.

(C) Other nonflare control devices. Where an owner or operator seeks to use an absorber, condenser, or carbon adsorber as a control device, the information specified in paragraphs (a)(2)(ii)(C)( 1 ) through ( 5 ) of this section shall be recorded, as applicable.

( 1 ) Where an absorber is used as the control device, the exit specific gravity and average exit temperature of the absorbing liquid averaged over the same time period as the performance test (both measured while the vent stream is normally routed and constituted); or

( 2 ) Where a condenser is used as the control device, the average exit (product side) temperature averaged over the same time period as the performance test while the vent stream is routed and constituted normally; or

( 3 ) Where a carbon adsorber is used as the control device, the total regeneration stream mass flow during each carbon-bed regeneration cycle during the period of the performance test, and temperature of the carbon-bed after
each regeneration during the period of the performance test (and within 15 minutes of completion of any cooling cycle or cycles; or

(4) As an alternative to paragraph (a)(2)(ii)(C)(1), (2), or (3) of this section, the concentration level or reading indicated by an organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber averaged over the same time period as the performance test while the vent stream is normally routed and constituted.

(5) For an absorber, condenser, or carbon adsorber used as a control device, the percent reduction of regulated material achieved by the control device or concentration of regulated material (parts per million by volume, by compound) at the outlet of the control device.

(D) Halogen reduction devices. When using a scrubber following a combustion device to control a halogenated vent stream, record the information specified in paragraphs (a)(2)(ii)(D)(1) through (3) of this section.

(1) The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens as specified in §63.997(e)(3).

(2) The pH of the scrubber effluent averaged over the time period of the performance test; and

(3) The scrubber liquid-to-gas ratio averaged over the time period of the performance test.

(3) Recovery device monitoring records during TRE index value determination. For process vents that require control of emissions under a referencing subpart, owners or operators using a recovery device to maintain a TRE above a level specified in the referencing subpart shall maintain the continuous records specified in paragraph (a)(3)(i) through (v) of this section, as applicable, and submit reports as specified in §63.999(a)(2)(iii)(C).

(i) Where an absorber is the final recovery device in the recovery system and the saturated scrubbing fluid and specific gravity of the scrubbing fluid is greater than or equal to 0.02 specific gravity units, the exit specific gravity (or alternative parameter that is a measure of the degree of absorbing liquid saturation if approved by the Administrator) and average exit temperature of the absorbing liquid averaged over the same time period as the TRE index value determination (both measured while the vent stream is normally routed and constituted); or

(ii) Where a condenser is the final recovery device in the recovery system, the average exit (product side) temperature averaged over the same time period as the TRE index value determination while the vent stream is routed and constituted normally; or

(iii) Where a carbon adsorber is the final recovery device in the recovery system, the total regeneration stream mass flow during each carbon-bed regeneration cycle during the period of the TRE index value determination, and temperature of the carbon-bed after each regeneration during the period of the TRE index value determination (and within 15 minutes of completion of any cooling cycle or cycles); or

(iv) As an alternative to paragraph (a)(3)(i), (ii), or (iii) of this section, the concentration level or reading indicated by an organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber averaged over the same time period as the TRE index value determination while the vent stream is normally routed and constituted.

(v) All measurements and calculations performed to determine the TRE index value of the vent stream as specified in a referencing subpart.

(4) Halogen concentration records. Record the halogen concentration in the vent stream determined according to the procedures specified in a referencing subpart. Submit this record in the Notification of Compliance Status, as specified in §63.999(b)(4). If the owner or operator designates the vent stream as halogenated, then this shall be recorded and reported in the Notification of Compliance Status report.

(b) Continuous records and monitoring system data handling —(1) Continuous records. Where this subpart requires a continuous record, the owner or operator shall maintain a record as specified in paragraphs (b)(1)(i) through (iv) of this section, as applicable:
(i) A record of values measured at least once every 15 minutes or each measured value for systems which measure more frequently than once every 15 minutes; or

(ii) A record of block average values for 15-minute or shorter periods calculated from all measured data values during each period or from at least one measured data value per minute if measured more frequently than once per minute.

(iii) Where data is collected from an automated continuous parameter monitoring system, the owner or operator may calculate and retain block hourly average values from each 15-minute block average period or from at least one measured value per minute if measured more frequently than once per minute, and discard all but the most recent three valid hours of continuous (15-minute or shorter) records, if the hourly averages do not exclude periods of CPMS breakdown or malfunction. An automated CPMS records the measured data and calculates the hourly averages through the use of a computerized data acquisition system.

(iv) A record as required by an alternative approved under a referencing subpart.

(2) Excluded data. Monitoring data recorded during periods identified in paragraphs (b)(2)(i) through (iii) of this section shall not be included in any average computed to determine compliance with an emission limit in a referencing subpart.

(i) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;

(ii) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

(iii) Startups, shutdowns, and malfunctions, if the owner or operator operates the source during such periods in accordance with § 63.1111(a) and maintains the records specified in paragraph (d)(3) of this section.

(3) Records of daily averages. In addition to the records specified in paragraph (a), owners or operators shall keep records as specified in paragraphs (b)(3)(i) and (ii) of this section and submit reports as specified in § 63.999(c), unless an alternative recordkeeping system has been requested and approved under a referencing subpart.

(i) Except as specified in paragraph (b)(3)(ii) of this section, daily average values of each continuously monitored parameter shall be calculated from data meeting the specifications of paragraph (b)(2) of this section for each operating day and retained for 5 years.

(A) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the period of operation per operating day if operation is not continuous (e.g., for transfer racks the average shall cover periods of loading). If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the daily average instead of all measured values.

(B) The operating day shall be the period defined in the operating permit or in the Notification of Compliance Status. It may be from midnight to midnight or another daily period.

(ii) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status or in the operating permit, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that operating day. In such cases, the owner or operator may not discard the recorded values as allowed in paragraph (b)(1)(iii) of this section.

(4) [Reserved]

(5) Alternative recordkeeping. For any parameter with respect to any item of equipment associated with a process vent or transfer rack (except low throughput transfer loading racks), the owner or operator may implement the recordkeeping requirements in paragraphs (b)(5)(i) or (ii) of this section as alternatives to the recordkeeping
provisions listed in paragraphs (b)(1) through (3) of this section. The owner or operator shall retain each record required by paragraphs (b)(5)(i) or (ii) of this section as provided in a referencing subpart.

(i) The owner or operator may retain only the daily average value, and is not required to retain more frequently monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (b)(5)(i)(A) through (F) of this section are met. The owner or operator shall notify the Administrator in the Notification of Compliance Status as specified in § 63.999(b)(5) or, if the Notification of Compliance Status has already been submitted, in the Periodic Report immediately preceding implementation of the requirements of this paragraph, as specified in § 63.999(c)(6)(iv).

(A) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than start-ups, shutdowns or malfunctions (e.g., a temperature reading of −200° C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(B) The monitoring system generates a running average of the monitoring values, updated at least hourly throughout each operating day, that have been obtained during that operating day, and the capability to observe this average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (b)(5)(i)(B)(1) through (3) of this section. All instances in an operating day constitute a single occurrence.

(1) The running average is above the maximum or below the minimum established limits;

(2) The running average is based on at least six one-hour average values; and

(3) The running average reflects a period of operation other than a start-up, shutdown, or malfunction.

(C) The monitoring system is capable of detecting unchanging data during periods of operation other than start-ups, shutdowns or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(D) The monitoring system will alert the owner or operator by an alarm, if the running average parameter value calculated under paragraph (b)(5)(i)(B) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(E) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (b)(5)(i) of this section, at the times specified in paragraphs (b)(5)(i)(E)(1) through (3) of this section. The owner or operator shall document that the required verifications occurred.

(1) Upon initial installation.

(2) Annually after initial installation.

(3) After any change to the programming or equipment constituting the monitoring system that might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(F) The owner or operator shall retain the records identified in paragraphs (b)(5)(i)(F)(1) through (4) of this section.

(1) Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of paragraph (b)(5)(i) of this section.

(2) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraph (b)(5)(i)(A) through (E) of this section. The description shall identify the location and format (e.g., on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description. The description, and the most recent superseded
(3) A description, and the date, of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of paragraph (b)(5)(i) of this section.

(4) Owners and operators subject to paragraph (b)(5)(i)(F)(1) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall be retained on-site at all times or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The owner or operator shall retain the most recent superseded description at least until 5 years from the date of its creation. The superseded description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after being superseded. Thereafter, the superseded description may be stored off-site.

(ii) If an owner or operator has elected to implement the requirements of paragraph (b)(5)(i) of this section, and a period of 6 consecutive months has passed without an excursion as defined in paragraph (b)(6)(i) of this section, the owner or operator is no longer required to record the daily average value for that parameter for that unit of equipment, for any operating day when the daily average value is less than the maximum, or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring were required and/or approved by the Administrator.

(A) If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Administrator in the next Periodic Report, as specified in §63.999(c)(6)(i). The notification shall identify the parameter and unit of equipment.

(B) If there is an excursion as defined in paragraph (b)(6)(i) of this section on any operating day after the owner or operator has ceased recording daily averages as provided in paragraph (b)(5)(ii) of this section, the owner or operator shall immediately resume retaining the daily average value for each operating day, and shall notify the Administrator in the next Periodic Report, as specified in §63.999(c). The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (b)(6)(i) of this section.

(C) The owner or operator shall retain the records specified in paragraphs (b)(5)(i)(A) through (F) of this section for the duration specified in a referencing subpart. For any week, if compliance with paragraphs (b)(5)(i)(A) through (D) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction.

(6)(i) For the purposes of this section, an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except as provided in paragraphs (b)(6)(i)(A) and (B) of this section.

(A) The daily average value during any startup, shutdown, or malfunction shall not be considered an excursion if the owner or operator operates the source during such periods in accordance with §63.1111(a) and maintains the records specified in paragraph (d)(3) of this section.

(B) An excused excursion, as described in paragraph (b)(6)(ii), does not count toward the number of excursions for the purposes of this subpart.

(ii) One excused excursion for each control device or recovery device for each semiannual period is allowed. If a source has developed a startup, shutdown and malfunction plan, and a monitored parameter is outside its established range or monitoring data are not collected during periods of start-up, shutdown, or malfunction (and the source is operated during such periods in accordance with §63.1111(a)) or during periods of nonoperation of the process unit or portion thereof (resulting in cessation of the emissions to which monitoring applies), then the excursion is not a violation and, in cases where continuous monitoring is required, the excursion does not count as the excused excursion for determining compliance.
(c) Nonflare control and recovery device regulated source monitoring records — (1) Monitoring system records. For process vents and high throughput transfer racks, the owner or operator subject to this subpart shall keep the records specified in this paragraph, as well as records specified elsewhere in this subpart.

(i) For a CPMS used to comply with this part, a record of the procedure used for calibrating the CPMS.

(ii) For a CPMS used to comply with this subpart, records of the information specified in paragraphs (c)(ii)(A) through (H) of this section, as indicated in a referencing subpart.

(A) The date and time of completion of calibration and preventive maintenance of the CPMS.

(B) The “as found” and “as left” CPMS readings, whenever an adjustment is made that affects the CPMS reading and a “no adjustment” statement otherwise.

(C) The start time and duration or start and stop times of any periods when the CPMS is inoperative.

(D) Records of the occurrence and duration of each start-up, shutdown, and malfunction of CPMS used to comply with this subpart during which excess emissions (as defined in a referencing subpart) occur.

(E) For each start-up, shutdown, and malfunction during which excess emissions as defined in a referencing subpart occur, records whether the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. These records may take the form of a "checklist," or other form of recordkeeping that confirms conformance with the start-up, shutdown, and malfunction plan for the event.

(F) Records documenting each start-up, shutdown, and malfunction event.

(G) Records of CPMS start-up, shutdown, and malfunction event that specify that there were no excess emissions during the event, as applicable.

(H) Records of the total duration of operating time.

(2) Combustion control and halogen reduction device monitoring records. (i) Each owner or operator using a combustion control or halogen reduction device to comply with this subpart shall keep the following records up-to-date and readily accessible, as applicable. Continuous records of the equipment operating parameters specified to be monitored under §§ 63.988(c) (incinerator, boiler, and process heater monitoring), 63.994(c) (halogen reduction device monitoring), and 63.995(c) (other combustion systems used as control device monitoring) or approved by the Administrator in accordance with a referencing subpart.

(ii) Each owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in paragraph (b)(3)(i) of this section. For catalytic incinerators, record the daily average of the temperature upstream of the catalyst bed and the daily average of the temperature differential across the bed. For halogen scrubbers record the daily average pH and the liquid-to-gas ratio.

(iii) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded. The parameter boundaries are established pursuant to § 63.996(c)(6).

(3) Monitoring records for recovery devices, absorbers, condensers, carbon adsorbers or other noncombustion systems used as control devices. (i) Each owner or operator using a recovery device to achieve and maintain a TRE index value greater than the control applicability level specified in the referencing subpart but less than 4.0 or using an absorber, condenser, carbon adsorber or other non-combustion system as a control device shall keep readily accessible, continuous records of the equipment operating parameters specified to be monitored under §§ 63.990(c) (absorber, condenser, and carbon adsorber monitoring), 63.993(c) (recovery device monitoring), or 63.995(c) (other noncombustion systems used as a control device monitoring) or as approved by the Administrator in accordance with
a referencing subpart. For transfer racks, continuous records are required while the transfer vent stream is being vented.

(ii) Each owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in paragraph (b)(3)(i) of this section. If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in paragraphs (c)(3)(ii)(A) and (B) of this section shall be kept instead of the daily averages.

(A) Records of total regeneration stream mass or volumetric flow for each carbon-bed regeneration cycle.

(B) Records of the temperature of the carbon bed after each regeneration and within 15 minutes of completing any cooling cycle.

(iii) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded. The parameter boundaries are established pursuant to § 63.996(c)(6).

(d) Other records —

(1) Closed vent system records. For closed vent systems the owner or operator shall record the information specified in paragraphs (d)(1)(i) through (iv) of this section, as applicable.

(i) For closed vent systems collecting regulated material from a regulated source, the owner or operator shall record the identification of all parts of the closed vent system, that are designated as unsafe or difficult to inspect, an explanation of why the equipment is unsafe or difficult to inspect, and the plan for inspecting the equipment required by § 63.983(b)(2)(ii) or (iii) of this section.

(ii) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (d)(1)(ii)(A) or (B) of this section, as applicable.

(A) Hourly records of whether the flow indicator specified under § 63.983(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(B) Where a seal mechanism is used to comply with § 63.983(a)(3)(ii), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken.

(iii) For a closed vent system collecting regulated material from a regulated source, when a leak is detected as specified in § 63.983(d)(2), the information specified in paragraphs (d)(1)(iii)(A) through (F) of this section shall be recorded and kept for 5 years.

(A) The instrument and the equipment identification number and the operator name, initials, or identification number.

(B) The date the leak was detected and the date of the first attempt to repair the leak.

(C) The date of successful repair of the leak.

(D) The maximum instrument reading measured by the procedures in § 63.983(c) after the leak is successfully repaired or determined to be nonrepairable.

(E) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 days after discovery of the leak. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
(F) Copies of the Periodic Reports as specified in § 63.999(c), if records are not maintained on a computerized
database capable of generating summary reports from the records.

(iv) For each instrumental or visual inspection conducted in accordance with § 63.983(b)(1) for closed vent systems
collecting regulated material from a regulated source during which no leaks are detected, the owner or operator shall
record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(2) Storage vessel and transfer rack records. An owner or operator shall keep readily accessible records of the
information specified in paragraphs (d)(2)(i) and (ii) of this section, as applicable.

(i) A record of the measured values of the parameters monitored in accordance with § 63.985(c) or § 63.987(c).

(ii) A record of the planned routine maintenance performed on the control system during which the control system
does not meet the applicable specifications of § 63.983(a), § 63.985(a), or § 63.987(a), as applicable, due to the
planned routine maintenance. Such a record shall include the information specified in paragraphs (d)(2)(ii)(A) through
(C) of this section. This information shall be submitted in the Periodic Reports as specified in § 63.999(c)(4).

(A) The first time of day and date the requirements of § 63.983(a), § 63.985(a), or § 63.987(a), as applicable, were
not met at the beginning of the planned routine maintenance, and

(B) The first time of day and date the requirements of § 63.983(a), § 63.985(a), or § 63.987(a), as applicable, were
met at the conclusion of the planned routine maintenance.

(C) A description of the type of maintenance performed.

(3) Regulated source and control equipment start-up, shutdown and malfunction records. (i) Records of the
occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or of air
pollution control equipment used to comply with this part during which excess emissions (as defined in a referencing
subpart) occur.

(ii) For each start-up, shutdown, and malfunction during which excess emissions occur, records that the procedures
specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken
that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures
for routing control device emissions to a backup control device (e.g., the incinerator for a halogenated stream could
be routed to a flare during periods when the primary control device is out of service), records must be kept of whether
the plan was followed. These records may take the form of a "checklist," or other form of recordkeeping that confirms
conformance with the start-up, shutdown, and malfunction plan for the event.

(4) Equipment leak records. The owner or operator shall maintain records of the information specified in paragraphs
(d)(4)(i) and (ii) of this section for closed vent systems and control devices if specified by the equipment leak
provisions in a referencing subpart. The records specified in paragraph (d)(4)(i) of this section shall be retained for
the life of the equipment. The records specified in paragraph (d)(4)(ii) of this section shall be retained for 5 years.

(i) The design specifications and performance demonstrations specified in paragraphs (d)(4)(i)(A) through (C) of this
section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) A description of the parameter or parameters monitored, as required in a referencing subpart, to ensure that
control devices are operated and maintained in conformance with their design and an explanation of why that
parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed vent systems and control devices, as specified in paragraphs (d)(4)(ii)(A) through
(C) of this section.
(A) Dates and durations when the closed vent systems and control devices required are not operated as designed as indicated by the monitored parameters.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of start-ups and shutdowns of control devices required in this subpart.

(5) Records of monitored parameters outside of range. The owner or operator shall record the occurrences and the cause of periods when the monitored parameters are outside of the parameter ranges documented in the Notification of Compliance Status report. This information shall also be reported in the Periodic Report.

[64 FR 34866, June 29, 1999, as amended at 64 FR 63705, Nov. 22, 1999; 71 FR 20458, Apr. 20, 2006]

§ 63.999 Notifications and other reports.

(a) Performance test and flare compliance assessment notifications and reports —(1) General requirements. General requirements for performance test and flare compliance assessment notifications and reports are specified in paragraphs (a)(1)(i) through (iii) of this section.

(i) The owner or operator shall notify the Administrator of the intention to conduct a performance test or flare compliance assessment at least 30 days before such a compliance demonstration is scheduled to allow the Administrator the opportunity to have an observer present. If after 30 days notice for such an initially scheduled compliance demonstration, there is a delay (due to operational problems, etc.) in conducting the scheduled compliance demonstration, the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original demonstration date. The owner or operator shall provide at least 7 days prior notice of the rescheduled date of the compliance demonstration, or arrange a rescheduled date with the Administrator by mutual agreement.

(ii) Unless specified differently in this subpart or a referencing subpart, performance test and flare compliance assessment reports, not submitted as part of a Notification of Compliance Status report, shall be submitted to the Administrator within 60 days of completing the test or determination.

(iii) Any application for a waiver of an initial performance test or flare compliance assessment, as allowed by § 63.997(b)(2), shall be submitted no later than 90 days before the performance test or compliance assessment is required. The application for a waiver shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the test.

(iv) Any application to substitute a prior performance test or compliance assessment for an initial performance test or compliance assessment, as allowed by § 63.997(b)(1), shall be submitted no later than 90 days before the performance test or compliance test is required. The application for substitution shall include information demonstrating that the prior performance test or compliance assessment was conducted using the same methods specified in § 63.997(e) or § 63.987(b)(3), as applicable. The application shall also include information demonstrating that no process changes have been made since the test, or that the results of the performance test or compliance assessment reliably demonstrate compliance despite process changes.

(2) Performance test and flare compliance assessment report submittal and content requirements. Performance test and flare compliance assessment reports shall be submitted as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) For performance tests or flare compliance assessments, the Notification of Compliance Status or performance test and flare compliance assessment report shall include one complete test report as specified in paragraph (a)(2)(ii) of this section for each test method used for a particular kind of emission point and other applicable information specified in (a)(2)(iii) of this section. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in applicable sections of this subpart shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of
operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(iii) The performance test or flare compliance assessment report shall also include the information specified in (a)(2)(iii)(A) through (C) of this section, as applicable.

(A) For flare compliance assessments, the owner or operator shall submit the records specified in § 63.998(a)(1)(i).

(B) For nonflare control device and halogen reduction device performance tests as required under § 63.988(b), § 63.990(b), § 63.994(b), or § 63.995(b), also submit the records specified in § 63.998(a)(2)(ii), as applicable.

(C) For recovery devices also submit the records specified in § 63.998(a)(3), as applicable.

(b) Notification of Compliance Status — (1) Routing storage vessel or transfer rack emissions to a process or fuel gas system. An owner or operator who elects to comply with § 63.982 by routing emissions from a storage vessel or transfer rack to a process or to a fuel gas system, as specified in § 63.984, shall submit as part of the Notification of Compliance Status the information specified in paragraphs (b)(1)(i) and (ii), or (iii) of this section, as applicable.

(i) If storage vessels emissions are routed to a process, the owner or operator shall submit the information specified in § 63.984(b)(2) and (3).

(ii) As specified in § 63.984(c), if storage vessels emissions are routed to a fuel gas system, the owner or operator shall submit a statement that the emission stream is connected to the fuel gas system and whether the conveyance system is subject to the requirements of § 63.983.

(iii) As specified in § 63.984(c), report that the transfer rack emission stream is being routed to a fuel gas system or process, when complying with a referencing subpart.

(2) Routing storage vessel or low throughput transfer rack emissions to a nonflare control device. An owner or operator who elects to comply with § 63.982 by routing emissions from a storage vessel or low throughput transfer rack to a nonflare control device, as specified in § 63.985, shall submit, with the Notification of Compliance Status required by a referencing subpart, the applicable information specified in paragraphs (b)(2)(i) through (vi) of this section. Owners and operators who elect to comply with § 63.985(b)(1)(i) by submitting a design evaluation shall submit the information specified in paragraphs (b)(2)(i) through (iv) of this section. Owners and operators who elect to comply with § 63.985(b)(1)(ii) by submitting performance test results from a control device for a storage vessel or low throughput transfer rack shall submit the information specified in paragraphs (b)(2)(i), (ii), (iv), and (v) of this section. Owners and operators who elect to comply with § 63.985(b)(1)(ii) by submitting performance test results from a shared control device shall submit the information specified in paragraph (b)(2)(vi) of this section.

(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised). If continuous records are specified, indicate whether the provisions of § 63.999(c)(6) apply.

(ii) The operating range for each monitoring parameter identified in the monitoring plan required by § 63.985(c)(1). The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(iii) The documentation specified in § 63.985(b)(1)(i), if the owner or operator elects to prepare a design evaluation.

(iv) The provisions of paragraph (c)(6) of this section do not apply to any low throughput transfer rack for which the owner or operator has elected to comply with § 63.985 or to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under § 63.985(c)(1), to keep continuous records. If continuous records are required, the owner or operator shall specify in the monitoring plan whether the provisions of paragraph (c)(6) of this section apply.
(v) A summary of the results of the performance test described in § 63.985(b)(1)(ii). If such a performance test is conducted, submit the results of the performance test, including the information specified in § 63.999(a)(2)(ii) and (iii).

(vi) Identification of the storage vessel or transfer rack and control device for which the performance test will be submitted, and identification of the emission point(s), if any, that share the control device with the storage vessel or transfer rack and for which the performance test will be conducted.

(3) **Operating range for monitored parameters.** The owner or operator shall submit as part of the Notification of Compliance Status, the operating range for each monitoring parameter identified for each control, recovery, or halogen reduction device as determined pursuant to § 63.996(c)(6). The specified operating range shall represent the conditions for which the control, recovery, or halogen reduction device is being properly operated and maintained. This report shall include the information in paragraphs (b)(3)(i) through (iii) of this section, as applicable, unless the range and the operating day have been established in the operating permit.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control, recovery, or halogen reduction device, as specified in paragraphs (b)(3)(ii)(A), (B), or (C) of this section, as applicable.

(A) If a performance test or TRE index value determination is required by a referencing subpart for a control, recovery or halogen reduction device, the range shall be based on the parameter values measured during the TRE index value determination or performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. TRE index value determinations and performance testing are not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test or TRE index value determination is not required by a referencing subpart for a control, recovery, or halogen reduction device, the range may be based solely on engineering assessments and/or manufacturer's recommendations.

(C) The range may be based on ranges or limits previously established under a referencing subpart.

(iii) A definition of the source’s operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(4) **Halogen reduction device.** The owner or operator shall submit as part of the Notification of Compliance Status the information recorded pursuant to § 63.998(a)(4).

(5) **Alternative recordkeeping.** The owner or operator shall notify the Administrator in the Notification of Compliance Status if the alternative recordkeeping requirements of § 63.998(b)(5) are being implemented. If the Notification of Compliance Status has already been submitted, the notification must be in the periodic report submitted immediately preceding implementation of the alternative, as specified in paragraph (c)(6)(iv) of this section.

(c) **Periodic reports.** (1) Periodic reports shall include the reporting period dates, the total source operating time for the reporting period, and, as applicable, all information specified in this section and in the referencing subpart, including reports of periods when monitored parameters are outside their established ranges.

(2) For closed vent systems subject to the requirements of § 63.983, the owner or operator shall submit as part of the periodic report the information specified in paragraphs (c)(2)(i) through (iii) of this section, as applicable.

(i) The information recorded in § 63.998(d)(1)(iii)(B) through (E);

(ii) Reports of the times of all periods recorded under § 63.998(d)(1)(ii)(A) when the vent stream is diverted from the control device through a bypass line; and
(iii) Reports of all times recorded under § 63.998(d)(1)(ii)(B) when maintenance is performed in car-sealed valves, when the seal is broken, when the bypass line valve position is changed, or the key for a lock-and-key type configuration has been checked out.

(3) For flares subject to this subpart, report all periods when all pilot flames were absent or the flare flame was absent as recorded in § 63.998(a)(1)(i)(C).

(4) For storage vessels, the owner or operator shall include in each periodic report required the information specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) For the 6-month period covered by the periodic report, the information recorded in § 63.998(d)(2)(ii)(A) through (C).

(ii) For the time period covered by the periodic report and the previous periodic report, the total number of hours that the control system did not meet the requirements of § 63.983(a), § 63.985(a), or § 63.987(a) due to planned routine maintenance.

(iii) A description of the planned routine maintenance during the next 6-month periodic reporting period that is anticipated to be performed for the control system when it is not expected to meet the required control efficiency. This description shall include the type of maintenance necessary, planned frequency of maintenance, and expected lengths of maintenance periods.

(5) If a control device other than a flare is used to control emissions from storage vessels or low throughput transfer racks, the periodic report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status in accordance with paragraph (b)(3) of this section. The description shall include the information specified in paragraphs (c)(5)(i) and (ii) of this section.

(i) Identification of the control device for which the measured parameters were outside of the established ranges, and

(ii) The cause for the measured parameters to be outside of the established ranges.

(6) For process vents and transfer racks (except low throughput transfer racks), periodic reports shall include the information specified in paragraphs (c)(6)(i) through (iv) of this section.

(i) Periodic reports shall include the daily average values of monitored parameters, calculated as specified in § 63.998(b)(3)(i) for any days when the daily average value is outside the bounds as defined in § 63.998(c)(2)(ii)(A) or (c)(3)(iii), or the data availability requirements defined in paragraphs (c)(6)(i)(A) through (D) of this section are not met, whether these excursions are excused or unexcused excursions. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified. An excursion means any of the cases listed in paragraphs (c)(6)(i)(A) through (C) of this section. If the owner or operator elects not to retain the daily average values pursuant to § 63.998(b)(5)(ii)(A), the owner or operator shall report this in the Periodic Report.

(A) When the daily average value of one or more monitored parameters is outside the permitted range.

(B) When the period of control or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(C) When the period of control or recovery device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(D) Monitoring data are insufficient to constitute a valid hour of data as used in paragraphs (c)(6)(i)(B) and (C) of this section, if measured values are unavailable for any of the 15-minute periods within the hour.

(ii) Report all carbon-bed regeneration cycles during which the parameters recorded under § 63.998(a)(2)(ii)(C) were outside the ranges established in the Notification of Compliance Status or in the operating permit.
(iii) The provisions of paragraph (c)(6)(i) and (ii) of this section do not apply to any low throughput transfer rack for which the owner or operator has elected to comply with § 63.985 or to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under § 63.985(c)(1), to keep continuous records. If continuous records are required, the owner or operator shall specify in the monitoring plan whether the provisions of paragraphs (c)(6)(i) and (c)(6)(ii) of this section apply.

(iv) If the owner or operator has chosen to use the alternative recordkeeping requirements of § 63.998(b)(5), and has not notified the Administrator in the Notification of Compliance Status that the alternative recordkeeping provisions are being implemented as specified in paragraph (b)(5) of this section, the owner or operator shall notify the Administrator in the Periodic Report submitted immediately preceding implementation of the alternative. The notifications specified in § 63.998(b)(5)(ii) shall be included in the next Periodic Report following the identified event.

(7) As specified in § 63.997(c)(3), if an owner or operator at a facility not required to obtain a title V permit elects at a later date to replace an existing control or recovery device with a different control or recovery device, then the Administrator shall be notified by the owner or operator before implementing the change. This notification may be included in the facility’s periodic reporting.

(d) Requests for approval of monitoring alternatives —(1) Alternatives to the continuous operating parameter monitoring and recordkeeping provisions. Requests for approval to use alternatives to continuous operating parameter monitoring and recordkeeping provisions, as provided for in § 63.996(d)(1), shall be submitted as specified in a referencing subpart, and the referencing subpart will govern the review and approval of such requests. The information specified in paragraphs (d)(1)(i) and (ii) of this section shall be included.

(i) A description of the proposed alternative system; and

(ii) Information justifying the owner or operator’s request for an alternative method, such as the technical or economic infeasibility, or the impracticality, of the regulated source using the required method.

(2) Monitoring a different parameter than those listed. Requests for approval to monitor a different parameter than those established in § 63.996(c)(6) of this section or to set unique monitoring parameters, as provided for in § 63.996(d)(2), shall be submitted as specified as specified in a referencing subpart, and the referencing subpart will govern the review and approval of such requests. The information specified in paragraphs (d)(2)(i) through (iii) of this section shall be included in the request.

(i) A description of the parameter(s) to be monitored to ensure the control technology or pollution prevention measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s);

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device, the schedule for this demonstration, and a statement that the owner or operator will establish a range for the monitored parameter(s) as part of the Notification of Compliance Status if required under a referencing subpart, unless this information has already been submitted; and

(iii) The frequency and content of monitoring, recording, and reporting, if monitoring and recording is not continuous, or if reports of daily average values when the monitored parameter value is outside the established range will not be included in periodic reports under paragraph (c) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

[64 FR 34866, June 29, 1999, as amended at 64 FR 63705, Nov. 22, 1999]
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart UU—National Emission Standards for Equipment Leaks—Control Level 2 Standards

Source: 64 FR 34899, June 29, 1999, unless otherwise noted.

§ 63.1019   Applicability.

(a) The provisions of this subpart apply to the control of air emissions from equipment leaks for which another subpart references the use of this subpart for such air emission control. These air emission standards for equipment leaks are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of 40 CFR part 63, subpart A (General Provisions) do not apply to this subpart except as noted in the referencing subpart.

(b) Equipment subject to this subpart. The provisions of this subpart and the referencing subpart apply to equipment that contains or contacts regulated material. This subpart applies to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and closed vent systems and control devices used to meet the requirements of this subpart.

(c) Equipment in vacuum service. Equipment in vacuum service is excluded from the requirements of this subpart.

(d) Equipment in service less than 300 hours per calendar year. Equipment intended to be in regulated material service less than 300 hours per calendar year is excluded from the requirements of §§ 63.1025 through 63.1034 and § 63.1036 if it is identified as required in § 63.1022(b)(5).

(e) Lines and equipment not containing process fluids. Lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems that do not combine their materials with those in the processes they serve, are not considered to be part of a process unit or affected facility.

(f) Implementation and enforcement. This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

   (1) 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 paragraphs (f)(i) through (v) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

   (i) Approval of alternatives to the nonopacity emissions standards in §§ 63.1022 through 62.1034, under § 63.6(g), and the standards for quality improvement programs in § 63.1035. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.
(ii) [Reserved]

(iii) Approval of major changes to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(iv) Approval of major changes to monitoring under § 63.8(f) and as defined in § 63.90.

(v) Approval of major changes to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

[64 FR 34899, June 29, 1999, as amended at 67 FR 46279, July 12, 2002]

§ 63.1020 Definitions.

All terms used in this part shall have the meaning given them in the Act and in this section.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented directly to the atmosphere.

Closed-purge system means a system or combination of systems and portable containers to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic emissions.

Connector means flanged, screwed, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined (e.g., porcelain, glass, or glass-lined) as described in § 63.1027(e)(2).

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this part. Such equipment or devices include, but are not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. Primary condensers on steam strippers or fuel gas systems are not considered control devices.

Distance piece means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.
Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in regulated material service; and any control devices or systems used to comply with this subpart.

First attempt at repair, for the purposes of this subpart, means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §§ 63.1023(b) and (c) of this subpart in to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use a fuel gas in combustion equipment, such as furnaces and gas turbines, either singly or in combination.

In food and medical service means that a piece of equipment in regulated material service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

1. A dilution of product quality so that the product would not meet written specifications,
2. An exothermic reaction which is a safety hazard,
3. The intended reaction to be slowed down or stopped, or
4. An undesired side reaction to occur.

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

1. The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20° C,
2. The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20° C is equal to or greater than 20 percent by weight of the total process stream, and
3. The fluid is a liquid at operating conditions.

(Note to definition of "in light liquid service": Vapor pressures may be determined by standard reference texts or ASTM D-2879.)

In liquid service means that a piece of equipment in regulated material service is not in gas and vapor service.

In organic hazardous air pollutant or in organic HAP service means that piece of equipment either contains or contracts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of § 63.180(d) of subpart H. The provisions of § 63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service.
In regulated material service means, for the purposes of this subpart, equipment which meets the definition of “in VOC service,” “in VHAP service,” “in organic hazardous air pollutant service,” or “in” other chemicals or groups of chemicals “service” as defined in the referencing subpart.

In-situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

Initial startup means for new sources, the first time the source begins production. For additions or changes not defined as a new source by this subpart, initial startup means the first time additional or changed equipment is put into operation. Initial startup does not include operation solely for testing of equipment. Initial startup does not include subsequent startup of process units following malfunction or process unit shutdowns. Except for equipment leaks, initial startup also does not include subsequent startups (of process units following changes in product for flexible operation units or following recharging of equipment in batch unit operations).

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 1.27 centimeters (0.5 inches) and smaller, and connectors nominally 1.91 centimeters (0.75 inches) and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 1.27 centimeters (0.5 inches) and connectors greater than nominally 1.91 centimeters (0.75 inches) associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquids dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit or affected facility shutdown.

Open-ended valve or line means any valve, except relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds based on a detection principle such as infra-red, photoionization, or thermal conductivity.

Polymerizing monomer means a compound which may form polymer buildup in pump mechanical seals resulting in rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

Process unit means the equipment specified in the definitions of process unit in the applicable referencing subpart. If the referencing subpart does not define process unit, then for the purposes of this part, process unit means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit, or part of a process unit during which it is technically feasible to clear process material from a process unit, or part of a
process unit, consistent with safety constraints and during which repairs can be affected. The following are not considered process unit shutdowns:

(1) An unscheduled work practice or operations procedure that stops production from a process unit, or part of a process unit, for less than 24 hours.

(2) An unscheduled work practice or operations procedure that would stop production from a process unit, or part of a process unit, for a shorter period of time than would be required to clear the process unit, or part of the process unit, of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown.

(3) The use of spare equipment and technically feasible bypassing of equipment without stopping production.

Referencing subpart means the subpart that refers an owner or operator to this subpart.

Regulated material, for purposes of this part, refers to gas from volatile organic liquids (VOL), volatile organic compounds (VOC), hazardous air pollutants (HAP), or other chemicals or groups of chemicals that are regulated by the referencing subpart.

Regulated source for the purposes of this part, means the stationary source, the group of stationary sources, or the portion of a stationary source that is regulated by a referencing subpart.

Relief device or valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Repaired, for the purposes of this subpart, means that equipment is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart and unless otherwise specified in applicable provisions of this subpart, is monitored as specified in §§ 63.1023(b) and (c) to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed to any enclosed portion of a process unit where the emissions are predominantly recycled and/or consumed in the same manner as a material that fulfills the same function in the process and/or transformed by chemical reaction into materials that are not regulated materials and/or incorporated into a product; and/or recovered.

Sampling connection system means an assembly of equipment within a process unit or affected facility used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

Screwed (threaded) connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means for the purposes of this subpart, the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Start-up means the setting into operation of a piece of equipment or a control device that is subject to this subpart.
§ 63.1021 Alternative means of emission limitation.

(a) **Performance standard exemption.** The provisions of paragraph (b) of this section do not apply to the performance standards of § 63.1030(b) for pressure relief devices or § 63.1031(f) for compressors operating under the alternative compressor standard.

(b) **Requests by owners or operators.** An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§ 63.1025 through 63.1034 as provided in paragraph (d) of this section. If the Administrator makes a determination that a means of emission limitation is a permissible alternative, the owner or operator shall either comply with the alternative or comply with the requirements of §§ 63.1025 through 63.1034.

(c) **Requests by manufacturers of equipment.** (1) Manufacturers of equipment used to control equipment leaks of the regulated material may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the regulated material achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraph (d) of this section.

(d) **Permission to use an alternative means of emission limitation.** Permission to use an alternative means of emission limitation shall be governed by the procedures in paragraphs (d)(1) through (d)(4) of this section.

(1) Where the standard is an equipment, design, or operational requirement, the requirements of paragraphs (d)(1)(i) through (d)(1)(iii) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(ii) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(iii) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve at least the same emission reduction as the equipment, design, and operational requirements of this subpart.

(2) Where the standard is a work practice, the requirements of paragraphs (d)(2)(i) through (d)(2)(vi) of this section apply.

(i) Each owner or operator applying for permission to use an alternative means of emission limitation shall be responsible for collecting and verifying test data for the alternative.

(ii) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(iii) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(iv) Each owner or operator applying for such permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(v) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (d)(2)(iv) of this section.
(vi) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(3) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(4) If, in the judgement of the Administrator, an alternative means of emission limitation will be approved, the Administrator will publish a notice of the determination in the FEDERAL REGISTER using the procedures specified in the referencing subpart.

§ 63.1022 Equipment identification.

(a) General equipment identification. Equipment subject to this subpart shall be identified. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit or affected facility boundaries by some form of weatherproof identification, or by other appropriate methods.

(b) Additional equipment identification. In addition to the general identification required by paragraph (a) of this section, equipment subject to any of the provisions in §§ 63.1023 through 63.1034 shall be specifically identified as required in paragraphs (b)(1) through (b)(5) of this section, as applicable. This paragraph does not apply to an owner or operator of a batch product process who elects to pressure test the batch product process equipment train pursuant to § 63.1036.

(1) Connectors. Except for inaccessible, ceramic, or ceramic-lined connectors meeting the provision of § 63.1027(e)(2) and instrumentation systems identified pursuant to paragraph (b)(4) of this section, identify the connectors subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the identification shall be complete no later than the completion of the initial survey required by paragraph (a) of this section.

(2) Routed to a process or fuel gas system or equipped with a closed vent system and control device. Identify the equipment that the owner or operator elects to route to a process or fuel gas system or equip with a closed vent system and control device, under the provisions of § 63.1026(e)(3) (pumps in light liquid service), § 63.1028(e)(3) (agitators), § 63.1030(d) (pressure relief devices in gas and vapor service), § 63.1031(e) (compressors), or § 63.1037(a) (alternative means of emission limitation for enclosed-vented process units).

(3) Pressure relief devices. Identify the pressure relief devices equipped with rupture disks, under the provisions of § 63.1030(e).

(4) Instrumentation systems. Identify instrumentation systems subject to the provisions of § 63.1029 of this subpart. Individual components in an instrumentation system need not be identified.

(5) Equipment in service less than 300 hours per calendar year. The identity, either by list, location (area or group), or other method, of equipment in regulated material service less than 300 hours per calendar year within a process unit or affected facilities subject to the provisions of this subpart shall be recorded.

(c) Special equipment designations: Equipment that is unsafe or difficult-to-monitor —(1) Designation and criteria for unsafe-to-monitor. Valves meeting the provisions of § 63.1025(e)(1), pumps meeting the provisions of § 63.1026(e)(6), connectors meeting the provisions of § 63.1027(e)(1), and agitators meeting the provisions of § 63.1028(e)(7) may be designated unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart. Examples of unsafe-to-monitor equipment include, but is not limited to, equipment under extreme pressure or heat.

(2) Designation and criteria for difficult-to-monitor. Valves meeting the provisions of § 63.1025(e)(2) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(i) apply. Agitators meeting the provisions of § 63.1028(e)(5) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(ii) apply.
(i) **Valves.** (A) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service; and

(B) The process unit or affected facility within which the valve is located is an existing source, or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor.

(ii) **Agitators.** The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in regulated material service.

(3) **Identification of unsafe or difficult-to-monitor equipment.** The owner or operator shall record the identity of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section and the planned schedule for monitoring this equipment. The owner or operator shall record the identity of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section, the planned schedule for monitoring this equipment, and an explanation why the equipment is unsafe or difficult-to-monitor. This record must be kept at the plant and be available for review by an inspector.

(4) **Written plan requirements.** (i) The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in § 63.1024 if a leak is detected.

(ii) The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year and repair of the equipment according to the procedures in § 63.1024 if a leak is detected.

(d) **Special equipment designations: Equipment that is unsafe-to-repair.** —(1) **Designation and criteria.** Connectors subject to the provisions of § 63.1024(e) may be designated unsafe-to-repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit or affected facility shutdown as specified in § 63.1024(e)(2).

(2) **Identification of equipment.** The identity of connectors designated as unsafe-to-repair and an explanation why the connector is unsafe-to-repair shall be recorded.

(e) **Special equipment designations: Compressors operating with an instrument reading of less than 500 parts per million above background.** Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.1031(f).

(f) **Special equipment designations: Equipment in heavy liquid service.** The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (f)(1) or (f)(2) of this section, as provided in paragraph (f)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of “in light liquid service.” Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.
§ 63.1023 Instrument and sensory monitoring for leaks.

(a) Monitoring for leaks. The owner or operator of a regulated source subject to this subpart shall monitor regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

(1) Instrument monitoring for leaks. (i) Valves in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1025(b).

(ii) Pumps in light liquid service shall be monitored pursuant to § 63.1026(b).

(iii) Connectors in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1027(b).

(iv) Agitators in gas and vapor service and in light liquid service shall be monitored pursuant to § 63.1028(c).

(v) Pressure relief devices in gas and vapor service shall be monitored pursuant to § 63.1030(c).

(vi) Compressors designated to operate with an instrument reading less than 500 parts per million above background, as described in § 63.1022(e), shall be monitored pursuant to § 63.1031(f).

(2) Sensory monitoring for leaks. (i) Pumps in light liquid service shall be observed pursuant to §§ 63.1026(b)(4) and (e)(1)(v).

(ii) [Reserved]

(iii) Agitators in gas and vapor service and in light liquid service shall be observed pursuant to § 63.1028(c)(3) or (e)(1)(iv).

(iv) [Reserved]

(b) Instrument monitoring methods. Instrument monitoring, as required under this subpart, shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section.

(1) Monitoring method. Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A, except as otherwise provided in this section.

(2) Detection instrument performance criteria. (i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2, paragraph (a) of Method 21 shall be for the representative composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, water or other inerts that are not HAP or VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If there is no instrument commercially available that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) Detection instrument calibration procedure. The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Detection instrument calibration gas. Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air); and the gases specified in paragraph (b)(4)(i) of this section except as provided in paragraph (b)(4)(ii) of this section.
(i) Mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. If the monitoring instrument’s design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day’s monitoring.

(ii) A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(5) Monitoring performance. Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

(6) Monitoring data. Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in § 63.1025(a)(2), (b)(3) or (b)(4) for valves or § 63.1027(b)(3) for connectors provided the departures from the criteria or from the specified monitoring frequency of § 63.1025(b)(3) or (b)(4) or § 63.1027(b)(3) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2, paragraph (a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring using a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) Instrument monitoring using background adjustments. The owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(5) of this section. In such cases, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1030(b) (pressure relief devices) or § 63.1031(f) (alternative compressor standard). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b)(1) through (b)(5) of this section shall apply.

(2) The background level shall be determined, using the procedures in Method 21 of 40 CFR part 60, appendix A.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with § 63.1030(b) (pressure relief devices) or § 63.1031(f) (alternative compressor standard).

(d) Sensory monitoring methods. Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

(e) Leaking equipment identification and records. (1) When each leak is detected pursuant to the monitoring specified in paragraph (a) of this section, a weatherproof and readily visible identification, shall be attached to the leaking equipment.

(2) When each leak is detected, the information specified in § 63.1024(f) shall be recorded and kept pursuant to the referencing subpart, except for the information for connectors complying with the 8 year monitoring period allowed under § 63.1027(b)(3)(iii) shall be kept 5 years beyond the date of its last use.
§ 63.1024   Leak repair.

(a) Leak repair schedule. The owner or operator shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided in paragraphs (d) and (e) of this section. A first attempt at repair as defined in this subpart shall be made no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

(b) [Reserved]

(c) Leak identification removal —(1) Valves and connectors in gas/vapor and light liquid service. The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in § 63.1025(d)(2), and no leak has been detected during that monitoring. The leak identification on a connector in gas/vapor or light liquid service may be removed after it has been monitored as specified in § 63.1027(b)(3)(iv) and no leak has been detected during that monitoring.

(2) Other equipment. The identification that has been placed, pursuant to § 63.1023(e)(1), on equipment determined to have a leak, except for a valve or for a connector in gas/vapor or light liquid service that is subject to the provisions of § 63.1027(b)(3)(iv), may be removed after it is repaired.

(d) Delay of repair. Delay of repair is allowed for any of the conditions specified in paragraphs (d)(1) through (d)(5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.

(1) Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit or affected facility shutdown. Repair of this equipment shall occur as soon as practical, but no later than the end of the next process unit or affected facility shutdown, except as provided in paragraph (d)(5) of this section.

(2) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in regulated material service.

(3) Delay of repair for valves, connectors, and agitators is also allowed if the provisions of paragraphs (d)(3)(i) and (d)(3)(ii) of this section are met.

(i) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are effected, the purged material is collected and destroyed, collected and routed to a fuel gas system or process, or recovered in a control device complying with either § 63.1034 or § 63.1021(b) of this part.

(4) Delay of repair for pumps is also allowed if the provisions of paragraphs (d)(4)(i) and (d)(4)(ii) of this section are met.

(i) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of § 63.1035(d) will provide better performance or one of the specifications of paragraphs (d)(4)(i)(A) through (d)(4)(i)(C) of this section are met.

(A) A dual mechanical seal system that meets the requirements of § 63.1026(e)(1) will be installed;

(B) A pump that meets the requirements of § 63.1026(e)(2) will be installed; or

(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of § 63.1026(e)(3) will be installed; and
(ii) Repair is completed as soon as practical, but not later than 6 months after the leak was detected.

(5) Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

(e) Unsafe-to-repair—connectors. Any connector that is designated, as described in §63.1022(d), as an unsafe-to-repair connector is exempt from the requirements of §63.1027(d), and paragraph (a) of this section.

(f) Leak repair records. For each leak detected, the information specified in paragraphs (f)(1) through (f)(5) of this section shall be recorded and maintained pursuant to the referencing subpart.

(1) The date of first attempt to repair the leak.

(2) The date of successful repair of the leak.

(3) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A at the time the leak is successfully repaired or determined to be nonrepairable.

(4) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in paragraphs (f)(4)(i) and (f)(4)(ii) of this section.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan, as required by the referencing subpart for the source, or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(5) Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

§63.1025 Valves in gas and vapor service and in light liquid service standards.

(a) Compliance schedule. (1) The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(2) The use of monitoring data generated before the regulated source became subject to the referencing subpart to qualify initially for less frequent monitoring is governed by the provisions of §63.1023(b)(6).

(b) Leak detection. Unless otherwise specified in §63.1021(b) or paragraph (e) of this section, or the referencing subpart, the owner or operator shall monitor all valves at the intervals specified in paragraphs (b)(3) and/or (b)(4) of this section and shall comply with all other provisions of this section.

(1) Monitoring method. The valves shall be monitored to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) Instrument reading that defines a leak. The instrument reading that defines a leak is 500 parts per million or greater.

(3) Monitoring frequency. The owner or operator shall monitor valves for leaks at the intervals specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section and shall keep the record specified in paragraph (b)(3)(vi) of this section.
(i) If at least the greater of 2 valves or 2 percent of the valves in a process unit leak, as calculated according to paragraph (c) of this section, the owner or operator shall monitor each valve once per month.

(ii) At process units with less than the greater of 2 leaking valves or 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (b)(3)(iii) through (b)(3)(v) of this section. Monitoring data generated before the regulated source became subject to the referencing subpart and meeting the criteria of either § 63.1023(b)(1) through (b)(5), or § 63.1023(b)(6), may be used to qualify initially for less frequent monitoring under paragraphs (b)(3)(iii) through (b)(3)(v) of this section.

(iii) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every two quarters.

(iv) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every four quarters.

(v) At process units with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(vi) The owner or operator shall keep a record of the monitoring schedule for each process unit.

(4) Valve subgrouping. For a process unit or a group of process units to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable process unit or group of process units and apply the provisions of paragraph (b)(3) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable process unit or group of process units, then the provisions of paragraphs (b)(4)(i) through (b)(4)(viii) of this section apply.

(i) The overall performance of total valves in the applicable process unit or group of process units to be subdivided shall be less than 2 percent leaking valves, as detected according to paragraphs (b)(1) and (b)(2) of this section and as calculated according to paragraphs (c)(1)(ii) and (c)(2) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than one year of monitoring data or valves not monitored within the last twelve months must be placed initially into the most frequently monitored subgroup until at least one year of monitoring data have been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup’s associated percent leaking valves calculation for that monitoring event.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable process unit or group of process units is less than 2 percent leaking valves and so indicate the performance in the next Periodic Report. If the overall performance of total valves in the applicable process unit or group of process units is 2 percent leaking valves or greater, the owner or operator shall no longer subgroup and shall revert to the program required in paragraphs (b)(1) through (b)(3) of this section for that applicable process unit or group of process units. An owner or operator can again elect to comply with the valve subgrouping procedures of paragraph (b)(4) of this section if future overall performance of total valves in the process unit or group of process units is again less than 2 percent. The overall performance of total valves in the applicable process unit or group of process units shall be calculated as a weighted average of the percent leaking valves of each subgroup according to Equation number 1:
where:

\[ \%V_{LO} = \frac{\sum_{i=1}^{n}(\%V_{Li} \times V_i)}{\sum_{i=1}^{n}V_i} \]  

\[ \text{[Eq. 1]} \]

\( \%V_{LO} \) = Overall performance of total valves in the applicable process unit or group of process units

\( \%V_{Li} \) = Percent leaking valves in subgroup \( i \), most recent value calculated according to the procedures in paragraphs (c)(1)(ii) and (c)(2) of this section.

\( V_i \) = Number of valves in subgroup \( i \).

\( n \) = Number of subgroups.

(iv) The owner or operator shall maintain records specified in paragraphs (b)(4)(iv)(A) through (b)(4)(iv)(D) of this section.

(A) Which valves are assigned to each subgroup,

(B) Monitoring results and calculations made for each subgroup for each monitoring period,

(C) Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (b)(4)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating process units and the number of valves assigned to each subgroup, if applicable, and may be included in the next Periodic Report.

(vi) The owner or operator shall submit in the periodic reports the information specified in paragraphs (b)(4)(vi)(A) and (b)(4)(vi)(B).

(A) Total number of valves in each subgroup, and

(B) Results of the semiannual overall performance calculation required by paragraph (b)(4)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (c)(2) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (b)(4)(i) and (iii) of this section, each subgroup shall be treated as if it were a process unit for the purposes of applying the provisions of this section.

(c) \textbf{Percent leaking valves calculation} — (1) \textit{Calculation basis and procedures.} (i) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis and this shall be the basis used for comparison with the subgrouping criteria specified in paragraph (b)(4)(i) of this section.

(ii) The percent leaking valves for each monitoring period for each process unit or valve subgroup, as provided in paragraph (b)(4) of this section, shall be calculated using the following equation:
where:

\[
\% V_L = \left( \frac{V_L}{V_T} \right) \times 100 \quad [\text{Eq. 2}]
\]

\(\% V_L\) = Percent leaking valves.

\(V_L\) = Number of valves found leaking, excluding nonrepairable valves, as provided in paragraph (c)(3) of this section, and including those valves found leaking pursuant to paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section.

\(V_T\) = The sum of the total number of valves monitored.

(2) Calculation for monitoring frequency. When determining monitoring frequency for each process unit or valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(3) Nonrepairable valves. (i) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (c)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit or affected facility may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit or affected facility, the number of nonrepairable valves exceeding 1 percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

(d) Leak repair. (1) If a leak is determined pursuant to paragraph (b), (e)(1), or (e)(2) of this section, then the leak shall be repaired using the procedures in § 63.1024, as applicable.

(2) After a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definition of repaired and first attempt at repair.

(i) The monitoring shall be conducted as specified in § 63.1023(b) and (c) of this section, as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraph (b) of this section may be used to satisfy the requirements of this paragraph, if the timing of the monitoring period coincides with the time specified in this paragraph. Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph.

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (d)(2) of this section, the owner or operator shall follow the provisions of paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of paragraph (c)(1)(ii) of this section.

(A) If the owner or operator elected to use periodic monitoring required by paragraph (b) of this section to satisfy the requirements of paragraph (d)(2) of this section, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraph (b) of this section, to satisfy the requirements of paragraph (d)(2) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.
(e) **Special provisions for valves** — (1) **Unsafe-to-monitor valves.** Any valve that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) and (d)(2) of this section and the owner or operator shall monitor the valve according to the written plan specified in §63.1022(c)(4).

(2) **Difficult-to-monitor valves.** Any valve that is designated, as described in §63.1022(c)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the valve according to the written plan specified in §63.1022(c)(4).

(3) **Fewer than 250 valves.** Any equipment located at a plant site with fewer than 250 valves in regulated material service is exempt from the requirements for monthly monitoring specified in paragraph (b)(3)(i) of this section. Instead, the owner or operator shall monitor each valve in regulated material service for leaks once each quarter, as provided in paragraphs (e)(1) and (e)(2) of this section.

§ 63.1026 **Pumps in light liquid service standards.**

(a) **Compliance schedule.** The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) **Leak detection.** Unless otherwise specified in §63.1021(b), §63.1036, §63.1037, or paragraph (e) of this section, the owner or operator shall monitor each pump to detect leaks and shall comply with all other provisions of this section.

(1) **Monitoring method and frequency.** The pumps shall be monitored monthly to detect leaks by the method specified in §63.1023(b) and, as applicable, §63.1023(c).

(2) **Instrument reading that defines a leak.** The instrument reading that defines a leak is specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(ii) 2,000 parts per million or greater for pumps in food/medical service; and

(iii) 1,000 parts per million or greater for all other pumps.

(3) **Leak repair exception.** For pumps to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

(4) **Visual inspection.** Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (b)(4)(i) or (b)(4)(ii) of this section.

(i) The owner or operator shall monitor the pump as specified in §63.1023(b) and, as applicable, §63.1023(c). If the instrument reading indicates a leak as specified in paragraph (b)(2) of this section, a leak is detected and it shall be repaired using the procedures in §63.1024, except as specified in paragraph (b)(3) of this section; or

(ii) The owner or operator shall eliminate the visual indications of liquids dripping.

(c) **Percent leaking pumps calculation.** (1) The owner or operator shall decide no later than the compliance date of this part or upon revision of an operating permit whether to calculate percent leaking pumps on a process unit basis or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(2) If, when calculated on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of §63.1035.
(3) The number of pumps at a process unit or affected facility shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit or affected facility within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

\[ \%P_L = \left( \frac{P_L - P_S}{P_T - P_S} \right) \times 100 \]  

Where:

\( \%P_L \) = Percent leaking pumps

\( P_L \) = Number of pumps found leaking as determined through monthly monitoring as required in paragraph (b)(1) of this section. Do not include results from inspection of unsafe-to-monitor pumps pursuant to paragraph (e)(6) of this section.

\( P_S \) = Number of pumps leaking within 1 month of start-up during the current monitoring period.

\( P_T \) = Total pumps in regulated material service, including those meeting the criteria in paragraphs (e)(1), (e)(2), (e)(3), and (e)(6) of this section.

(d) Leak repair. If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in § 63.1024, as applicable, unless otherwise specified in paragraph (b)(5) of this section for leaks identified by visual indications of liquids dripping.

(e) Special provisions for pumps — (1) Dual mechanical seal pumps. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(viii) of this section are met.

(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both. The owner or operator shall keep records at the plant of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes. This record must be available for review by an inspector.

(ii) Each dual mechanical seal system shall meet the requirements specified in paragraph (e)(1)(ii)(A), (e)(1)(ii)(B), or (e)(1)(ii)(C) of this section.

(A) Each dual mechanical seal system is operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of either § 63.1034 or § 63.1021(b) of this part; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(iii) The barrier fluid is not in light liquid service.

(iv) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(v) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall...
follow the procedure specified in paragraphs (e)(1)(v)(A) or (e)(1)(v)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump as specified in § 63.1023(b) and, as applicable, § 63.1023 (c), to determine if there is a leak of regulated material in the barrier fluid. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in § 63.1024; or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(vi) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(1)(i) of this section, or if based on the criteria established in paragraph (e)(1)(i) of this section the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) Each sensor as described in paragraph (e)(1)(iv) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(viii) When a leak is detected pursuant to paragraph (e)(1)(vi) of this section, it shall be repaired as specified in § 63.1024.

(2) No external shaft. Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraph (b) of this section.

(3) Routed to a process or fuel gas system or equipped with a closed vent system. Any pump that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pump to a control device meeting the requirements of § 63.1034 of this part or § 63.1021(b) is exempt from the requirements of paragraph (b) of this section.

(4) Unmanned plant site. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(4) and (e)(1)(v) of this section, and the daily requirements of paragraph (e)(1)(vii) of this section, provided that each pump is visually inspected as often as practical and at least monthly.

(5) 90 percent exemption. If more than 90 percent of the pumps at a process unit or affected facility meet the criteria in either paragraph (e)(1) or (e)(2) of this section, the process unit or affected facility is exempt from the percent leaking calculation in paragraph (c) of this section.

(6) Unsafe-to-monitor pumps. Any pump that is designated, as described in § 63.1022(c)(1), as an unsafe-to-monitor pump is exempt from the requirements of paragraph (b) of this section, the monitoring and inspection requirements of paragraphs (e)(1)(v) through (viii) of this section, and the owner or operator shall monitor and inspect the pump according to the written plan specified in § 63.1022(c)(4).

[64 FR 34899, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1027 Connectors in gas and vapor service and in light liquid service standards.

(a) Compliance schedule. The owner or operator shall monitor all connectors in each process unit initially for leaks by the later of either 12 months after the compliance date as specified in a referencing subpart or 12 months after initial startup. If all connectors in each process unit have been monitored for leaks prior to the compliance date specified in the referencing subpart, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

(b) Leak detection. Except as allowed in § 63.1021(b), § 63.1036, § 63.1037, or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas and vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.
(1) **Monitoring method.** The connectors shall be monitored to detect leaks by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c).

(2) **Instrument reading that defines a leak.** If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(3) **Monitoring periods.** The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section, and shall comply with the requirements of paragraphs (b)(3)(iv) and (b)(3)(v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (b)(3)(iii) of this section using the monitoring results from the preceding monitoring period. The percent leaking connectors shall be calculated as specified in paragraph (c) of this section.

(i) If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

(ii) If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4 year monitoring period.

(iii) If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (b)(3)(iii)(C) of this section, as appropriate.

(A) An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

(B) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent leaking connectors of the total monitored connectors.

(C) If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

(iv) If, during the monitoring conducted pursuant to paragraph (b)(3)(i) through (b)(3)(iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

(v) The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

(c) **Percent leaking connectors calculation.** For use in determining the monitoring frequency, as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using equation number 4.

\[
\%C_L = C_L/C_T \times 100 \quad [\text{Eq. 4}]
\]

Where:

\[
\%C_L = \text{Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (b)(3)(iii) of this section.}
\]

\[
C_L = \text{Number of connectors measured at 500 parts per million or greater, by the method specified in § 63.1023(b).}
\]
C_r = Total number of monitored connectors in the process unit or affected facility.

(d) **Leak repair.** If a leak is detected pursuant to paragraphs (a) and (b) of this section, then the leak shall be repaired using the procedures in §63.1024, as applicable.

(e) **Special provisions for connectors — (1) Unsafe-to-monitor connectors.** Any connector that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section and the owner or operator shall monitor according to the written plan specified in §63.1022(c)(4).

(2) **Inaccessible, ceramic, or ceramic-lined connectors.** (i) Any connector that is inaccessible or that is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section, from the leak repair requirements of paragraph (d) of this section, and from the recordkeeping and reporting requirements of §§63.1038 and 63.1039. An inaccessible connector is one that meets any of the provisions specified in paragraphs (e)(2)(i)(A) through (e)(2)(i)(F) of this section, as applicable.

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.

(E) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;

(F) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(ii) If any inaccessible, ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

§63.1028 **Agitators in gas and vapor service and in light liquid service standards.**

(a) **Compliance schedule.** The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) [Reserved]

(c) **Leak detection — (1) Monitoring method.** Each agitator seal shall be monitored monthly to detect leaks by the methods specified in §63.1023(b) and, as applicable, §63.1023(c), except as provided in §63.1021(b), §63.1036, §63.1037, or paragraph (e) of this section.

(2) **Instrument reading that defines a leak.** If an instrument reading equivalent of 10,000 parts per million or greater is measured, a leak is detected.

(3) **Visual inspection.** (i) Each agitator seal shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. The owner or operator shall document that the inspection was conducted and the date of the inspection.
(ii) If there are indications of liquids dripping from the agitator seal, the owner or operator shall follow the procedures specified in paragraphs (c)(3)(ii)(A) or (c)(3)(ii)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the agitator seal as specified in § 63.1023(b) and, as applicable, § 63.1023(c), to determine if there is a leak of regulated material. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected, and it shall be repaired according to paragraph (d) of this section; or

(B) The owner or operator shall eliminate the indications of liquids dripping from the agitator seal.

(d) **Leak repair.** If a leak is detected, then the leak shall be repaired using the procedures in § 63.1024.

(e) **Special provisions for agitators** — (1) **Dual mechanical seal.** Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (c) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (e)(1)(vi) of this section are met.

(i) Each dual mechanical seal system shall meet the applicable requirements specified in paragraphs (e)(1)(i)(A), (e)(1)(i)(B), or (e)(1)(i)(C) of this section.

(A) Operated with the barrier fluid at a pressure that is at all times (except during periods of startup, shutdown, or malfunction) greater than the agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of either § 63.1034 or § 63.1021(b); or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in paragraphs (e)(1)(iv)(A) or (e)(1)(iv)(B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the agitator seal as specified in § 63.1023(b) and, as applicable, § 63.1023(c), to determine the presence of regulated material in the barrier fluid. If an instrument reading equivalent to or greater than 10,000 ppm is measured, a leak is detected and it shall be repaired using the procedures in § 63.1024, or

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (e)(1)(iii) of this section is observed daily or is equipped with an alarm unless the agitator seal is located within the boundary of an unmanned plant site.

(vi) The owner or operator of each dual mechanical seal system shall meet the requirements specified in paragraphs (e)(1)(vi)(A) and (e)(1)(vi)(B).

(A) The owner or operator shall determine, based on design considerations and operating experience, criteria that indicates failure of the seal system, the barrier fluid system, or both and applicable to the presence and frequency of drips. If indications of liquids dripping from the agitator seal exceed the criteria, or if, based on the criteria the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected and shall be repaired pursuant to § 63.1024, as applicable.
(B) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(2) **No external shaft.** Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraph (c) of this section.

(3) **Routed to a process or fuel gas system or equipped with a closed vent system.** Any agitator that is routed to a process or fuel gas system that captures and transports leakage from the agitator to a control device meeting the requirements of either §63.1034 or §63.1021(b) is exempt from the requirements of paragraph (c) of this section.

(4) **Unmanned plant site.** Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(3) and (e)(1)(iv) of this section, and the daily requirements of paragraph (e)(1)(v) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(5) **Difficult-to-monitor agitator seals.** Any agitator seal that is designated, as described in §63.1022(c)(2), as a difficult-to-monitor agitator seal is exempt from the requirements of paragraph (c) of this section and the owner or operator shall monitor the agitator seal according to the written plan specified in §63.1022(c)(4).

(6) **Equipment obstructions.** Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (c) of this section.

(7) **Unsafe-to-monitor agitator seals.** Any agitator seal that is designated, as described in §63.1022(c)(1), as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraph (c) of this section and the owner or operator of the agitator seal monitors the agitator seal according to the written plan specified in §63.1022(c)(4).

§ 63.1029 Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in liquid service; and instrumentation systems standards.

(a) **Compliance schedule.** The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) **Leak detection — (1) Monitoring method.** Unless otherwise specified in §63.1021(b), §63.1036, or §63.1037, the owner or operator shall comply with paragraphs (b)(1) and (b)(2) of this section. Pumps, valves, connectors, and agitators in heavy liquid service; pressure relief devices in light liquid or heavy liquid service; and instrumentation systems shall be monitored within 5 calendar days by the method specified in §63.1023(b) and, as applicable, §63.1023(c), if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method, unless the potential leak is repaired as required in paragraph (c) of this section.

(2) **Instrument reading that defines a leak.** If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for pumps in food and medical service, or 2,000 parts per million or greater for all other pumps (including pumps in food/medical service), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured pursuant to paragraph (b)(1) of this section, a leak is detected and shall be repaired pursuant to §63.1024, as applicable.

(c) **Leak repair.** For equipment identified in paragraph (b) of this section that is not monitored by the method specified in §63.1023(b) and, as applicable, §63.1023(c), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

[64 FR 34899, June 29, 1999, as amended at 64 FR 63706, Nov. 22, 1999]

§ 63.1030 Pressure relief devices in gas and vapor service standards.

(a) **Compliance schedule.** The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.
(b) **Compliance standard.** Except during pressure releases as provided for in paragraph (c) of this section, or as otherwise specified in §§ 63.1036, 63.1037, or paragraphs (d) and (e) of this section, each pressure relief device in gas and vapor service shall be operated with an instrument reading of less than 500 parts per million as measured by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c).

(c) **Pressure relief requirements.** (1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million, as soon as practical, but no later than 5 calendar days after each pressure release, except as provided in § 63.1024(d).

(2) The pressure relief device shall be monitored no later than five calendar days after the pressure to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c).

(3) The owner or operator shall record the dates and results of the monitoring required by paragraph (c)(2) of this section following a pressure release including the background level measured and the maximum instrument reading measured during the monitoring.

(d) **Pressure relief devices routed to a process or fuel gas system or equipped with a closed vent system and control device.** Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pressure relief device to a control device meeting the requirements of § 63.1034 is exempt from the requirements of paragraphs (b) and (c) of this section.

(e) **Rupture disk exemption.** Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (b) and (c) of this section provided the owner or operator installs a replacement rupture disk upstream of the pressure relief device as soon as practical after each pressure release but no later than 5 calendar days after each pressure release, except as provided in § 63.1024(d).

§ 63.1031 Compressors standards.

(a) **Compliance schedule.** The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) **Seal system standard.** Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in §§ 63.1021(b), 63.1036, 63.1037, and paragraphs (e) and (f) of this section. Each compressor seal system shall meet the applicable requirements specified in paragraph (b)(1), (b)(2), or (b)(3) of this section.

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure at all times (except during periods of startup, shutdown, or malfunction); or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that meets the requirements of either § 63.1034 or § 63.1021(b); or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) **Barrier fluid system.** The barrier fluid shall not be in light liquid service. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Each sensor shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(d) **Failure criterion and leak detection.** (1) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion, a leak is detected and shall be repaired pursuant to § 63.1024, as applicable.
(2) The owner or operator shall keep records of the design criteria and an explanation of the design criteria; and any changes to these criteria and the reasons for the changes.

(e) \textit{Routed to a process or fuel gas system or equipped with a closed vent system.} A compressor is exempt from the requirements of paragraphs (b) through (d) of this section if it is equipped with a system to capture and transport leakage from the compressor drive shaft seal to a process or a fuel gas system or to a closed vent system that captures and transports leakage from the compressor to a control device meeting the requirements of either § 63.1034 or § 63.1021(b).

(f) \textit{Alternative compressor standard.} (1) Any compressor that is designated, as described in § 63.1022(e), as operating with an instrument reading of less than 500 parts per million above background shall operate at all times with an instrument reading of less than 500 parts per million. A compressor so designated is exempt from the requirements of paragraphs (b) through (d) of this section if the compressor is demonstrated, initially upon designation, annually, and at other times requested by the Administrator to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c).

(2) The owner or operator shall record the dates and results of each compliance test including the background level measured and the maximum instrument reading measured during each compliance test.

\textbf{§ 63.1032 Sampling connection systems standards.}

(a) \textit{Compliance schedule.} The owner or operator shall comply with this section no later than the compliance dates specified in the referencing subpart.

(b) \textit{Equipment requirement.} Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system, except as provided in §§ 63.1021(b), 63.1036, 63.1037, or paragraph (d) of this section. Gases displaced during filling of the sample container are not required to be collected or captured.

(c) \textit{Equipment design and operation.} Each closed-purge, closed-loop, or closed vent system as required in paragraph (b) of this section shall meet the applicable requirements specified in paragraphs (c)(1) through (c)(5) of this section.

(1) The system shall return the purged process fluid directly to a process line or to a fuel gas system that meets the requirements of either § 63.1034 or § 63.1021(b); or

(2) [Reserved]

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that meets the requirements of either § 63.1034 or § 63.1021(b); or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (c)(4)(i), (c)(4)(ii), or (c)(4)(iii) of this section.

(i) A waste management unit as defined in 40 CFR 63.111 or subpart G, if the waste management unit is subject to and operating in compliance with the provisions of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams. If the purged process fluid does not contain any regulated material listed in Table 9 of 40 CFR part 63, subpart G, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to group 1 wastewater streams provided the facility has a National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR parts 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(5) Containers that are part of a closed purge system must be covered or closed when not being filled or emptied.
(d) In-situ sampling systems. In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

§ 63.1033 Open-ended valves or lines standards.

(a) Compliance schedule. The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) Equipment and operational requirements. (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §§ 63.1021(b), 63.1036, 63.1037, and paragraphs (c) and (d) of this section. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance. The operational provisions of paragraphs (b)(2) and (b)(3) of this section also apply.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

(c) Emergency shutdown exemption. Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

(d) Polymerizing materials exemption. Open-ended valves or lines containing materials that would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

§ 63.1034 Closed vent systems and control devices; or emissions routed to a fuel gas system or process standards.

(a) Compliance schedule. The owner or operator shall comply with this section no later than the compliance date specified in the referencing subpart.

(b) Compliance standard. (1) Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply with the provisions of subpart SS of this part, except as provided in § 63.1002(b).

(2) Owners or operators of closed vent systems and control devices used to comply with the provisions of this subpart shall comply with the provisions of subpart SS of this part and (b)(2)(i) through (b)(2)(iii) of this section, except as provided in § 63.1002(b).

(i) Nonflare control devices shall be designed and operated to reduce emissions of regulated material vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume standard is not applicable to the provisions of § 63.1016.

(ii) Enclosed combustion devices shall be designed and operated to reduce emissions of regulated material vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760° C (1400° F).

(iii) Flares used to comply with the provisions of this subpart shall comply with the requirements of subpart SS of this part.
§ 63.1035  Quality improvement program for pumps.

(a) Criteria. If, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or affected facility (or plant site) or three pumps in a process unit or affected facility (or plant site) leak, the owner or operator shall comply with the requirements specified in paragraphs (a)(1) and (a)(2) of this section.

(1) Pumps that are in food and medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food and medical or polymerizing monomer service shall comply with all of the requirements of this section.

(b) Exiting the QIP. The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit or affected facility (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in § 63.1026.

(c) Resumption of QIP. If, in a subsequent monitoring period, the process unit or affected facility (or plant site) has greater than either 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) QIP requirements. The quality improvement program shall meet the requirements specified in paragraphs (d)(1) through (d)(8) of this section.

(1) The owner or operator shall comply with the requirements in § 63.1026.

(2) Data collection. The owner or operator shall collect the data specified in paragraphs (d)(2)(i) through (d)(2)(v) of this section and maintain records for each pump in each process unit or affected facility (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit, affected facility, or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units or affected facilities, a description of any maintenance or quality assurance programs used in the process unit or affected facility that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit or affected facility (or plant site) remains in the quality improvement program.

(4) Pump or pump seal inspection. The owner or operator shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit or affected facility due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.
(5)(i) **Data analysis.** The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit, affected facility, or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit or affected facility (or plant site).

(iii) The analysis shall include consideration of the information specified in paragraphs (d)(5)(iii)(A) through (d)(5)(iii)(C) of this section.

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit or affected facility due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of 6 months. An analysis of the data shall be done each year the process unit or affected facility is in the quality improvement program.

(6) **Trial evaluation program.** A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit or affected facility (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial evaluation program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph (e)(3)(ii) of this section.

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units or affected facilities and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units or affected facilities. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of the information specified in paragraphs (d)(6)(iii)(A) through (d)(6)(iii)(D) of this section.

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;
(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit or affected facility. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience are obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit or affected facility may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Quality assurance program. Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit or affected facility. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section; and, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section; and the operating conditions in the process unit or affected facility. The quality assurance program shall be updated each year as long as the process unit or affected facility has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall meet the requirements specified in paragraphs (d)(7)(i)(A) through (d)(7)(i)(D) of this section.

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or affected facility, or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate so that emissions are minimized.
(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) **Pump or pump seal replacement.** Three years after the start of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit, affected facility, or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of § 63.1026 are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit or affected facility shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

(e) **QIP recordkeeping.** In addition to the records required by paragraph (d)(2) of this section, the owner or operator shall maintain records for the period of the quality improvement program for the process unit or affected facility as specified in paragraphs (e)(1) through (e)(6) of this section.

(1) When using a pump quality improvement program as specified in this section, record the information specified in paragraphs (e)(1)(i) through (e)(1)(iii) of this section.

(i) The rolling average percent leaking pumps.

(ii) Documentation of all inspections conducted under the requirements of paragraph (d)(4) of this section, and any recommendations for design or specification changes to reduce leak frequency.

(iii) The beginning and ending dates while meeting the requirements of paragraph (d) of this section.

(2) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

(3) Records of all analyses required in paragraph (d) of this section. The records will include the information specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section.

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under paragraph (d)(6)(iii) of this section.
(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(4) All records documenting the quality assurance program for pumps as specified in paragraph (d)(7) of this section, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.

(5) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph (d)(8) of this section.

(6) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

§ 63.1036 Alternative means of emission limitation: Batch processes.

(a) General requirement. As an alternative to complying with the requirements of §§ 63.1025 through 63.1033 and § 63.1035, an owner or operator of a batch process that operates in regulated material service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of § 63.1021(b). The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in paragraph (b)(7) of this section.

(b) Pressure testing of the batch equipment. The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart.

(1) Reconfiguration. Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service.

(i) When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, that are not part of the reconfiguration to produce a different product or intermediate.

(2) Testing procedures. The batch product process equipment shall be tested either using the procedures specified in paragraph (b)(5) of this section for pressure vacuum loss or with a liquid using the procedures specified in paragraph (b)(6) of this section.

(3) Leak detection. (i) For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4) Leak repair. (i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest (the second of two consecutive pressure tests), it shall be repaired as soon as practical, but not later than 30 calendar days after the second pressure test except as specified in paragraph (e) of this section.
(5) **Gas pressure test procedure for pressure or vacuum loss.** The procedures specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section.

(i) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.

(ii) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(iii) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

\[
\Delta (P/t) = \frac{P_f - P_i}{(t_f - t_i)} \]  

Where:

\( \Delta (P/t) \) = Change in pressure, pounds per square inch gauge per hour.

\( P_f \) = Final pressure, pounds per square inch gauge.

\( P_i \) = Initial pressure, pounds per square inch gauge.

\( t_f - t_i \) = Elapsed time, hours.

(iv) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ±2.5 millimeter mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least ±10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of 1 pound per square inch gauge per hour (7 kilopascals per hour).

(v) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(6) **Pressure test procedure using test liquid.** The procedures specified in paragraphs (b)(6)(i) through (b)(6)(iv) of this section shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of paragraph (b)(3)(ii) of this section.

(i) The batch product-process equipment train, or section of the equipment train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(ii) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(iii) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(iv) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.
(7) **Pressure testing recordkeeping.** The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart shall maintain records of the information specified in paragraphs (b)(7)(i) through (b)(7)(v) of this section.

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(ii) Physical tagging of the equipment to identify that it is in regulated material service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in paragraph (b) of this section, the test pressure, and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a batch product process equipment train does not pass two consecutive pressure tests, the information specified in paragraphs (b)(7)(v)(A) through (b)(7)(v)(E) of this section shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment; and

(E) The date of successful repair.

(c) **Equipment monitoring.** The following requirements shall be met if an owner or operator elects to monitor the equipment in a batch process to detect leaks by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c), to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§ 63.1025 through 63.1035 as modified by paragraphs (c)(2) through (c)(4) of this section.

(2) The equipment shall be monitored for leaks by the method specified in § 63.1023(b) and, as applicable, § 63.1023(c), when the equipment is in regulated material service or is in use with any other detectable material.

(3) The equipment shall be monitored for leaks as specified in paragraphs (c)(3)(i) through (c)(3)(iv) of this section.

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit or affected facility.

(ii) Connectors shall be monitored in accordance with the requirements in § 63.1027.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 to this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in paragraph (c)(3)(iii) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating
during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected, except as provided in paragraph (e) of this section.

(d) Added equipment recordkeeping. (1) For batch product-process units or affected facilities that the owner or operator elects to monitor as provided under paragraph (c) of this section, the owner or operator shall prepare a list of equipment added to batch product process units or affected facilities since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section.

(2) Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit or affected facility. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in paragraph (c)(3)(iii) of this section.

(3) Record and keep pursuant to the referencing subpart and this subpart, the date and results of the monitoring required in paragraph (c)(3)(i) of this section for equipment added to a batch product-process unit or affected facility since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section. If no leaking equipment is found during this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(e) Delay of repair. Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the conditions specified in paragraphs (e)(1) and (e)(2) of this section are met.

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

(f) Periodic report contents. For owners or operators electing to meet the requirements of paragraph (b) of this section, the Periodic Report to be filed pursuant to § 63.1039(b) shall include the information listed in paragraphs (f)(1) through (f)(4) of this section for each process unit.

(1) Batch product process equipment train identification;

(2) The number of pressure tests conducted;

(3) The number of pressure tests where the equipment train failed the pressure test; and

(4) The facts that explain any delay of repairs.

§ 63.1037 Alternative means of emission limitation: Enclosed-vented process units or affected facilities.

(a) Use of closed vent system and control device. Process units or affected facilities or portions of process units at affected facilities enclosed in such a manner that all emissions from equipment leaks are vented through a closed vent system to a control device or routed to a fuel gas system or process meeting the requirements of § 63.1034 are exempt from the requirements of §§ 63.1025 through 63.1033 and 63.1035. The enclosure shall be maintained under a negative pressure at all times while the process unit or affected facility is in operation to ensure that all emissions are routed to a control device.

(b) Recordkeeping. Owners and operators choosing to comply with the requirements of this section shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section.

(1) Identification of the process unit(s) or affected facilities and the regulated materials they handle.
(2) A schematic of the process unit or affected facility, enclosure, and closed vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

§ 63.1038 Recordkeeping requirements.

(a) Recordkeeping system. An owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

(b) General equipment leak records. (1) As specified in § 63.1022(a) and (b), the owner or operator shall keep general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to this subpart through written documentation such as a log or other designation.

(2) The owner or operator shall keep a written plan as specified in § 63.1022(c)(4) for any equipment that is designated as unsafe- or difficult-to-monitor.

(3) The owner or operator shall maintain a record of the identity and an explanation as specified in § 63.1022(d)(2) for any equipment that is designated as unsafe-to-repair.

(4) As specified in § 63.1022(e), the owner or operator shall maintain the identity of compressors operating with an instrument reading of less than 500 parts per million.

(5) The owner or operator shall keep records associated with the determination that equipment is in heavy liquid service as specified in § 63.1022(f).

(6) The owner or operator shall keep records for leaking equipment as specified in § 63.1023(e)(2).

(7) The owner or operator shall keep records for leak repair as specified in § 63.1024(f) and records for delay of repair as specified in § 63.1024(d).

(c) Specific equipment leak records. (1) For valves, the owner or operator shall maintain the records specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(ii) The monitoring schedule for each process unit as specified in § 63.1025(b)(3)(vi).

(ii) The valve subgrouping records specified in § 63.1025(b)(4)(iv), if applicable.

(2) For pumps, the owner or operator shall maintain the records specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) Documentation of pump visual inspections as specified in § 63.1026(b)(4).

(ii) Documentation of dual mechanical seal pump visual inspections as specified in § 63.1026(e)(1)(v).

(iii) For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1026(e)(1)(i).

(3) For connectors, the owner or operator shall maintain the monitoring schedule for each process unit as specified in § 63.1027(b)(3)(v).
(4) For agitators, the owner or operator shall maintain the following records:

(i) Documentation of agitator seal visual inspections as specified in § 63.1028; and

(ii) For the criteria as to the presence and frequency of drips for agitators, the owner or operator shall keep records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1028(e)(1)(vi).

(5) For pressure relief devices in gas and vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in § 63.1030(c)(3).

(6) For compressors, the owner or operator shall maintain the records specified in paragraphs (c)(6)(i) and (c)(6)(ii) of this section.

(i) For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in § 63.1031(d)(2).

(ii) For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in § 63.1031(f)(2).

(7) For a pump QIP program, the owner or operator shall maintain the records specified in paragraphs (c)(7)(i) through (c)(7)(v) of this section.

(i) Individual pump records as specified in § 63.1035(d)(2).

(ii) Trial evaluation program documentation as specified in § 63.1035(d)(6)(iii).

(iii) Engineering evaluation documenting the basis for judgement that superior emission performance technology is not applicable as specified in § 63.1035(d)(6)(vi).

(iv) Quality assurance program documentation as specified in § 63.1035(d)(7).

(v) QIP records as specified in § 63.1035(e).

(8) For process units complying with the batch process unit alternative, the owner or operator shall maintain the records specified in paragraphs (c)(8)(i) and (c)(8)(ii) of this section.

(i) Pressure test records as specified in § 63.1036(b)(7).

(ii) Records for equipment added to the process unit as specified in § 63.1036(d).

(9) For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in § 63.1037(b).

§ 63.1039 Reporting requirements.

(a) Initial Compliance Status Report. Each owner or operator shall submit an Initial Compliance Status Report according to the procedures in the referencing subpart. The notification shall include the information listed in paragraphs (a)(1) through (a)(3) of this section, as applicable.

(1) The notification shall provide the information listed in paragraphs (a)(1)(ii) through (a)(1)(iv) of this section for each process unit or affected facility subject to the requirements of this subpart.

(i) Process unit or affected facility identification.
(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(iv) Planned schedule for requirements in §§ 63.1025 and 63.1026.

(2) The notification shall provide the information listed in paragraphs (a)(2)(i) and (a)(2)(ii) of this section for each process unit or affected facility subject to the requirements of § 63.1036(b).

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (a)(3)(i) and (a)(3)(ii) of this section for each process unit or affected facility subject to the requirements in § 63.1037.

(i) Process unit or affected facility identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of § 63.1034 of this part.

(b) Periodic Reports. The owner or operator shall report the information specified in paragraphs (b)(1) through (b)(8) of this section, as applicable, in the Periodic Report specified in the referencing subpart.

(1) For the equipment specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section, report in a summary format by equipment type, the number of components for which leaks were detected and for valves, pumps and connectors show the percent leakers, and the total number of components monitored. Also include the number of leaking components that were not repaired as required by § 63.1024, and for valves and connectors, identify the number of components that are determined by § 63.1025(c)(3) to be nonrepairable.

(i) Valves in gas and vapor service and in light liquid service pursuant to § 63.1025(b) and (c).

(ii) Pumps in light liquid service pursuant to § 63.1026(b) and (c).

(iii) Connectors in gas and vapor service and in light liquid service pursuant to § 63.1027(b) and (c).

(iv) Agitators in gas and vapor service and in light liquid service pursuant to § 63.1028(c).

(v) Compressors pursuant to § 63.1031(d).

(2) Where any delay of repair is utilized pursuant to § 63.1024(d), report that delay of repair has occurred and report the number of instances of delay of repair.

(3) If applicable, report the valve subgrouping information specified in § 63.1025(b)(4)(iv).

(4) For pressure relief devices in gas and vapor service pursuant to § 63.1030(b) and for compressors pursuant to § 63.1031(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

(5) Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to § 63.1025(b)(3)(i).

(6) Report, if applicable, the initiation of a quality improvement program for pumps pursuant to § 63.1035.
(7) Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in § 63.1036(f).

(8) Report the information listed in paragraph (a) of this section for the Initial Compliance Status Report for process units or affected facilities with later compliance dates. Report any revisions to items reported in an earlier Initial Compliance Status Report if the method of compliance has changed since the last report.

Table 1 to Subpart UU of Part 63—Batch Processes Monitoring Frequency For Equipment Other Than Connectors

<table>
<thead>
<tr>
<th>Operating time (% of year)</th>
<th>Equivalent continuous process monitoring frequency time in use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly</td>
</tr>
<tr>
<td>0 to &lt;25%</td>
<td>Quarterly</td>
</tr>
<tr>
<td>25 to &lt;50%</td>
<td>Quarterly</td>
</tr>
<tr>
<td>50 to &lt;75%</td>
<td>Bimonthly</td>
</tr>
<tr>
<td>75 to 100%</td>
<td>Monthly</td>
</tr>
</tbody>
</table>
§63.1060 Applicability.

The provisions of this subpart apply to the control of air emissions from storage vessels for which another subpart references the use of this subpart for such air emission control. These air emission standards for storage vessels are placed here for administrative convenience and only apply to those owners and operators of facilities subject to a referencing subpart. The provisions of subpart A (General Provisions) of this part do not apply to this subpart except as noted in the referencing subpart.

§63.1061 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section.

Capacity means the volume of liquid that is capable of being stored in a vessel, determined by multiplying the vessel's internal cross-sectional area by the internal height of the shell.

Deck cover means a device which covers an opening in a floating roof deck. Some deck covers move horizontally relative to the deck (i.e., a sliding cover).

Empty or emptying means the partial or complete removal of stored liquid from a storage vessel. Storage vessels that contain liquid only as wall or bottom clingage, or in pools due to bottom irregularities, are considered completely empty.

External floating roof or EFR means a floating roof located in a storage vessel without a fixed roof.

Fill or filling means the introduction of liquid into a storage vessel, but not necessarily to capacity.

Fixed roof means a roof that is mounted (i.e., permanently affixed) on a storage vessel and that does not move with fluctuations in stored liquid level.

Flexible fabric sleeve seal means a seal made of an elastomeric fabric (or other material) which covers an opening in a floating roof deck, and which allows the penetration of a fixed roof support column. The seal is attached to the rim of the deck opening and extends to the outer surface of the column. The seal is draped (but does not contact the stored liquid) to allow the horizontal movement of the deck relative to the column.

Floating roof means a roof that floats on the surface of the liquid in a storage vessel. A floating roof substantially covers the stored liquid surface (but is not necessarily in contact with the entire surface), and is comprised of a deck, a rim seal, and miscellaneous deck fittings.
Initial fill or initial filling means the first introduction of liquid into a storage vessel that is either newly constructed or has not been in liquid service for a year or longer.

Internal floating roof or IFR means a floating roof located in a storage vessel with a fixed roof. For the purposes of this subpart, an external floating roof located in a storage vessel to which a fixed roof has been added is considered to be an internal floating roof.

Liquid-mounted seal means a resilient or liquid-filled rim seal designed to contact the stored liquid.

Mechanical shoe seal or metallic shoe seal means a rim seal consisting of a band of metal (or other suitable material) as the sliding contact with the wall of the storage vessel, and a fabric seal to close the annular space between the band and the rim of the floating roof deck. The band is typically formed as a series of sheets (shoes) that are overlapped or joined together to form a ring. The lower end of the band extends into the stored liquid.

Pole float means a float located inside a guidepole that floats on the surface of the stored liquid. The rim of the float has a wiper or seal that extends to the inner surface of the pole.

Pole sleeve means a device which extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening. The sleeve extends into the stored liquid.

Pole wiper means a seal that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

Referencing subpart means the subpart that refers an owner or operator to this subpart.

Rim seal means a device attached to the rim of a floating roof deck that spans the annular space between the deck and the wall of the storage vessel. When a floating roof has only one such device, it is a primary seal; when there are two seals (one mounted above the other), the lower seal is the primary seal and the upper seal is the secondary seal.

Slotted guidepole means a guidepole or gaugepole that has slots or holes through the wall of the pole. The slots or holes allow the stored liquid to flow into the pole at liquid levels above the lowest operating level.

Storage vessel or Tank means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support and is designed to hold an accumulation of liquids or other materials.

Vapor-mounted seal means a rim seal designed not to be in contact with the stored liquid. Vapor-mounted seals may include, but are not limited to, resilient seals and flexible wiper seals.

§63.1062 Storage vessel control requirements.

(a) For each storage vessel to which this subpart applies, the owner or operator shall comply with one of the requirements listed in paragraphs (a)(1) through (a)(3) of this section.

(1) Operate and maintain an IFR.

(2) Operate and maintain an EFR.

(3) Equivalent requirements. Comply with an equivalent to the requirements in paragraph (a)(1) or (a)(2) of this section, as provided in §63.1064.

(b) [Reserved]
§63.1063 Floating roof requirements.

The owner or operator who elects to use a floating roof to comply with the requirements of §63.1062 shall comply with the requirements in paragraphs (a) through (e) of this section.

(a) Design requirements—(1) Rim seals. (i) Internal floating roof. An IFR shall be equipped with one of the seal configurations listed in paragraphs (a)(1)(i)(A) through (a)(1)(i)(C) of this section.

(A) A liquid-mounted seal.

(B) A mechanical shoe seal.

(C) Two seals mounted one above the other. The lower seal may be vapor-mounted.

(D) If the IFR is equipped with a vapor-mounted seal as of the proposal date for a referencing subpart, paragraphs (a)(1)(i)(A) through (a)(1)(i)(C) of this section do not apply until the next time the storage vessel is completely emptied and degassed, or 10 years after promulgation of the referencing subpart, whichever occurs first.

(ii) External floating roof. An EFR shall be equipped with one of the seal configurations listed in paragraphs (a)(1)(ii)(A) and (a)(1)(ii)(B) of this section.

(A) A liquid-mounted seal and a secondary seal.

(B) A mechanical shoe seal and a secondary seal. The upper end of the shoe(s) shall extend a minimum of 61 centimeters (24 inches) above the stored liquid surface.

(C) If the EFR is equipped with a liquid-mounted seal or mechanical shoe seal, or a vapor-mounted seal and secondary seal, as of the proposal date for a referencing subpart, the seal options specified in paragraphs (a)(1)(ii)(A) and (a)(1)(ii)(B) of this section do not apply until the next time the storage vessel is completely emptied and degassed, or 10 years after the promulgation date of the referencing subpart, whichever occurs first.

(2) Deck fittings. Openings through the deck of the floating roof shall be equipped as described in paragraphs (a)(2)(i) through (a)(2)(viii) of this section.

(i) Each opening except those for automatic bleeder vents (vacuum breaker vents) and rim space vents shall have its lower edge below the surface of the stored liquid.

(ii) Each opening except those for automatic bleeder vents (vacuum breaker vents), rim space vents, leg sleeves, and deck drains shall be equipped with a deck cover. The deck cover shall be equipped with a gasket between the cover and the deck.

(iii) Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be equipped with a gasketed lid, pallet, flapper, or other closure device.

(iv) Each opening for a fixed roof support column may be equipped with a flexible fabric sleeve seal instead of a deck cover.

(v) Each opening for a sample well or deck drain (that empties into the stored liquid) may be equipped with a slit fabric seal or similar device that covers at least 90 percent of the opening, instead of a deck cover.

(vi) Each cover on access hatches and gauge float wells shall be designed to be bolted or fastened when closed.

(vii) Each opening for an unslotted guidepole shall be equipped with a pole wiper, and each unslotted guidepole shall be equipped with a gasketed cap on the top of the guidepole.
(viii) Each opening for a slotted guidepole shall be equipped with one of the control device configurations specified in paragraphs (a)(2)(viii)(A) and (a)(2)(viii)(B) of this section.

(A) A pole wiper and a pole float. The wiper or seal of the pole float shall be at or above the height of the pole wiper.

(B) A pole wiper and a pole sleeve.

(ix) If the floating roof does not meet the requirements listed in paragraphs (a)(2)(i) through (a)(2)(viii) of this section as of the proposal date of the referencing subpart, these requirements do not apply until the next time the vessel is completely emptied and degassed, or 10 years after the promulgation date of the referencing subpart, whichever occurs first.

(b) Operational requirements. (1) The floating roof shall float on the stored liquid surface at all times, except when the floating roof is supported by its leg supports or other support devices (e.g., hangers from the fixed roof).

(2) When the storage vessel is storing liquid, but the liquid depth is insufficient to float the floating roof, the process of filling to the point of refloating the floating roof shall be continuous and shall be performed as soon as practical.

(3) Each cover over an opening in the floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall be closed at all times, except when the cover must be open for access.

(4) Each automatic bleeder vent (vacuum breaker vent) and rim space vent shall be closed at all times, except when required to be open to relieve excess pressure or vacuum, in accordance with the manufacturer's design.

(5) Each unslotted guidepole cap shall be closed at all times except when gauging the liquid level or taking liquid samples.

(c) Inspection frequency requirements—(1) Internal floating roofs. Internal floating roofs shall be inspected as specified in paragraph (d)(1) of this section before the initial filling of the storage vessel. Subsequent inspections shall be performed as specified in paragraph (c)(1)(i) or (c)(1)(ii) of this section.

(i) Internal floating roofs shall be inspected as specified in paragraphs (c)(1)(i)(A) and (c)(1)(i)(B) of this section.

(A) At least once per year the IFR shall be inspected as specified in paragraph (d)(2) of this section.

(B) Each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the IFR shall be inspected as specified in paragraph (d)(1) of this section.

(ii) Instead of the inspection frequency specified in paragraph (c)(1)(i) of this section, internal floating roofs with two rim seals may be inspected as specified in paragraph (d)(1) of this section each time the storage vessel is completely emptied and degassed, or every 5 years, whichever occurs first.

(2) External floating roofs. External floating roofs shall be inspected as specified in paragraphs (c)(2)(i) through (c)(2)(iv) of this section.

(i) Within 90 days after the initial filling of the storage vessel, the primary and secondary rim seals shall be inspected as specified in paragraph (d)(3) of this section.

(ii) The secondary seal shall be inspected at least once every year, and the primary seal shall be inspected at least every 5 years, as specified in paragraph (d)(3) of this section.

(iii) Each time the storage vessel is completely emptied and degassed, or every 10 years, whichever occurs first, the EFR shall be inspected as specified in paragraph (d)(1) of this section.
(iv) If the owner or operator determines that it is unsafe to perform the floating roof inspections specified in paragraphs (c)(2)(i) and (c)(2)(ii) of this section, the owner or operator shall comply with the requirements of paragraph (c)(2)(iv)(A) or (c)(2)(iv)(B) of this section.

(A) The inspections shall be performed no later than 30 days after the determination that the floating roof is unsafe.

(B) The storage vessel shall be removed from liquid service no later than 45 days after determining the floating roof is unsafe. If the vessel cannot be emptied within 45 days, the owner or operator may utilize up to two extensions of up to 30 additional days each. If the vessel cannot be emptied within 45 days, the owner or operator may utilize up to two extensions of up to 30 additional days each. Documentation of a decision to use an extension shall include an explanation of why it was unsafe to perform the inspection, documentation that alternative storage capacity is unavailable, and a schedule of actions that will ensure that the vessel will be emptied as soon as practical.

(d) Inspection procedure requirements. Floating roof inspections shall be conducted as specified in paragraphs (d)(1) through (d)(3) of this section, as applicable. If a floating roof fails an inspection, the owner or operator shall comply with the repair requirements of paragraph (e) of this section.

(1) Floating roof (IFR and EFR) inspections shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seals from within the storage vessel. The inspection may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck components specified in paragraph (a) of this section. Any of the conditions described in paragraphs (d)(1)(i) through (d)(1)(v) of this section constitutes inspection failure.

(i) Stored liquid on the floating roof.

(ii) Holes or tears in the primary or secondary seal (if one is present).

(iii) Floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of this section).

(iv) Failure to comply with the operational requirements of paragraph (b) of this section.

(v) Gaps of more than 0.32 centimeters ( \( \frac{1}{8} \) inch) between any deck fitting gasket, seal, or wiper (required by paragraph (a) of this section) and any surface that it is intended to seal.

(2) Tank-top inspections of IFR's shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seal through openings in the fixed roof. Any of the conditions described in paragraphs (d)(1)(i) through (d)(1)(iv) of this section constitutes inspection failure. Identification of holes or tears in the rim seal is required only for the seal that is visible from the top of the storage vessel.

(3) Seal gap inspections for EFR's shall determine the presence and size of gaps between the rim seals and the wall of the storage vessel by the procedures specified in paragraph (d)(3)(i) of this section. Any exceedance of the gap requirements specified in paragraphs (d)(3)(ii) and (d)(3)(iii) of this section constitutes inspection failure.

(i) Rim seals shall be measured for gaps at one or more levels while the EFR is floating, as specified in paragraphs (d)(3)(i)(A) through (d)(3)(i)(F) of this section.

(A) The inspector shall hold a 0.32 centimeter ( \( \frac{1}{8} \) inch) diameter probe vertically against the inside of the storage vessel wall, just above the rim seal, and attempt to slide the probe down between the seal and the vessel wall. Each location where the probe passes freely (without forcing or binding against the seal) between the seal and the vessel wall constitutes a gap.

(B) The length of each gap shall be determined by inserting the probe into the gap (vertically) and sliding the probe along the vessel wall in each direction as far as it will travel freely without binding between the seal and the vessel wall. The circumferential length along which the probe can move freely is the gap length.

(C) The maximum width of each gap shall be determined by inserting probes of various diameters between the seal and the vessel wall. The smallest probe diameter should be 0.32 centimeter, and larger probes should have
diameters in increments of 0.32 centimeter. The diameter of the largest probe that can be inserted freely anywhere along the length of the gap is the maximum gap width.

(D) The average width of each gap shall be determined by averaging the minimum gap width (0.32 centimeter) and the maximum gap width.

(E) The area of a gap is the product of the gap length and average gap width.

(F) The ratio of accumulated area of rim seal gaps to storage vessel diameter shall be determined by adding the area of each gap, and dividing the sum by the nominal diameter of the storage vessel. This ratio shall be determined separately for primary and secondary rim seals.

(ii) The ratio of seal gap area to vessel diameter for the primary seal shall not exceed 212 square centimeters per meter of vessel diameter (10 square inches per foot of vessel diameter), and the maximum gap width shall not exceed 3.81 centimeters (1.5 inches).

(iii) The ratio of seal gap area to vessel diameter for the secondary seal shall not exceed 21.2 square centimeters per meter (1 square inch per foot), and the maximum gap width shall not exceed 1.27 centimeters (0.5 inches), except when the secondary seal must be pulled back or removed to inspect the primary seal.

(e) **Repair requirements.** Conditions causing inspection failures under paragraph (d) of this section shall be repaired as specified in paragraph (e)(1) or (e)(2) of this section.

(1) If the inspection is performed while the storage vessel is not storing liquid, repairs shall be completed before the refilling of the storage vessel with liquid.

(2) If the inspection is performed while the storage vessel is storing liquid, repairs shall be completed or the vessel removed from service within 45 days. If a repair cannot be completed and the vessel cannot be emptied within 45 days, the owner or operator may use up to 2 extensions of up to 30 additional days each. Documentation of a decision to use an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be completely emptied as soon as practical.

§63.1064 Alternative means of emission limitation.

(a) An alternate control device may be substituted for a control device specified in §63.1063 if the alternate device has an emission factor less than or equal to the emission factor for the device specified in §63.1063. Requests for the use of alternate devices shall be made as specified in §63.1066(b)(3). Emission factors for the devices specified in §63.1063 are published in EPA Report No. AP-42, Compilation of Air Pollutant Emission Factors.

(b) Tests to determine emission factors for an alternate device shall accurately simulate conditions under which the device will operate, such as wind, temperature, and barometric pressure. Test methods that can be used to perform the testing required in this paragraph include, but are not limited to, the methods listed in paragraphs (b)(1) through (b)(3) of this section.


(c) An alternate combination of control devices may be substituted for any combination of rim seal and deck fitting control devices specified in §63.1063 if the alternate combination emits no more than the combination specified in §63.1063. The emissions from an alternate combination of control devices shall be determined using AP-42 or as
specified in paragraph (b) of this section. The emissions from a combination of control devices specified in §63.1063 shall be determined using AP-42. Requests for the use of alternate devices shall be made as specified in §63.1066(b)(3).

§63.1065 Recordkeeping requirements.

The owner or operator shall keep the records required in paragraph (a) of this section for as long as liquid is stored. Records required in paragraphs (b), (c) and (d) of this section shall be kept for at least 5 years. Records shall be kept in such a manner that they can be readily accessed within 24 hours. Records may be kept in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(a) Vessel dimensions and capacity. A record shall be kept of the dimensions of the storage vessel, an analysis of the capacity of the storage vessel, and an identification of the liquid stored.

(b) Inspection results. Records of floating roof inspection results shall be kept as specified in paragraphs (b)(1) and (b)(2) of this section.

(1) If the floating roof passes inspection, a record shall be kept that includes the information specified in paragraphs (b)(1)(i) and (b)(1)(ii) of this section. If the floating roof fails inspection, a record shall be kept that includes the information specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section.

(i) Identification of the storage vessel that was inspected.

(ii) The date of the inspection.

(iii) A description of all inspection failures.

(iv) A description of all repairs and the dates they were made.

(v) The date the storage vessel was removed from service, if applicable.

(2) A record shall be kept of EFR seal gap measurements, including the raw data obtained and any calculations performed.

(c) Floating roof landings. The owner or operator shall keep a record of the date when a floating roof is set on its legs or other support devices. The owner or operator shall also keep a record of the date when the roof was refloated, and the record shall indicate whether the process of refloating was continuous.

(d) An owner or operator who elects to use an extension in accordance with §63.1063(e)(2) or §63.1063(c)(2)(iv)(B) shall keep the documentation required by those paragraphs.

§63.1066 Reporting requirements.

(a) Notification of initial startup. If the referencing subpart requires that a notification of initial startup be filed, then the content of the notification of initial startup shall include (at a minimum) the information specified in the referencing subpart and the information specified in paragraphs (a)(1) and (a)(2) of this section.

(1) The identification of each storage vessel, its capacity and the liquid stored in the storage vessel.

(2) A statement of whether the owner or operator of the source can achieve compliance by the compliance date specified in referencing subpart.

(b) Periodic reports. Report the information specified in paragraphs (b)(1) through (b)(4) of this section, as applicable, in the periodic report specified in the referencing subpart.
(1) **Notification of inspection.** To provide the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator at least 30 days before an inspection required by §§63.1063(d)(1) or (d)(3). If an inspection is unplanned and the owner or operator could not have known about the inspection 30 days in advance, then the owner or operator shall notify the Administrator at least 7 days before the inspection. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 days before the inspection. If a delegated State or local agency is notified, the owner or operator is not required to notify the Administrator. A delegated State or local agency may waive the requirement for notification of inspections.

(2) **Inspection results.** The owner or operator shall submit a copy of the inspection record (required in §63.1065) when inspection failures occur.

(3) **Requests for alternate devices.** The owner or operator requesting the use of an alternate control device shall submit a written application including emissions test results and an analysis demonstrating that the alternate device has an emission factor that is less than or equal to the device specified in §63.1063.

(4) **Requests for extensions.** An owner or operator who elects to use an extension in accordance with §63.1063(e)(2) or §63.1063(c)(2)(iv)(B) shall submit the documentation required by those paragraphs.

§63.1067 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(1) Approval of alternatives to the nonopacity emissions standards in §§63.1062 and 63.1063(a) and (b) for alternative means of emission limitation, under §63.6(g).

(2) [Reserved]

(3) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(4) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(5) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

[67 FR 46279, July 12, 2002]
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 equal to or less than 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) \textit{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) \textit{Stationary RICE subject to Regulations under 40 CFR Part 60}. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.


§63.6595 When do I have to comply with this subpart?

(a) Affected sources. (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) Area sources that become major sources. If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.
(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.


Emission and Operating Limitations

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at a 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 combuts 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 IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.


§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§63.6605  What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.


Testing and Initial Compliance Requirements

§63.6610  By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.
(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.


§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.


§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.
§63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

\[
\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})
\]

Where:

- \(C_i\) = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,
- \(C_o\) = concentration of CO, THC, or formaldehyde at the control device outlet, and
- \(R\) = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific \(F_o\) value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

\[
F_o = \frac{0.209 \cdot F_d}{F_c} \quad (\text{Eq. 2})
\]

Where:
\( F_o \) = Fuel factor based on the ratio of oxygen volume to the ultimate CO\(_2\) volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

\( F_d \) = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu).

\( F_c \) = Ratio of the volume of CO\(_2\) produced to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu).

(ii) Calculate the CO\(_2\) correction factor for correcting measurement data to 15 percent O\(_2\), as follows:

\[
X_{CO_2} = \frac{5.9}{F_o} \quad \text{(Eq. 3)}
\]

Where:

\( X_{CO_2} \) = CO\(_2\) correction factor, percent.

5.9 = 20.9 percent O\(_2\)---15 percent O\(_2\), the defined O\(_2\) correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O\(_2\) using CO\(_2\) as follows:

\[
C_{adj} = C_d \times CO_2 \times X_{CO_2} \quad \text{(Eq. 4)}
\]

Where:

\( C_{adj} \) = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O\(_2\).

\( C_d \) = Measured concentration of CO, THC, or formaldehyde, uncorrected.

\( X_{CO_2} \) = CO\(_2\) correction factor, percent.

\( \%CO_2 \) = Measured CO\(_2\) concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.


§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O2 or CO2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR
part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.
(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.
(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in
items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an
oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The
oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart.
The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and
percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30
percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from
the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning
limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are
exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the
analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator
must change the oil within 2 business days of or before commencing operation, whichever is later. The owner or
operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis,
and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in
items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option
of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to
this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to
this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number,
viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number
increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil
when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent
water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or
operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must
change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the
results of the analysis are received, the engine owner or operator must change the oil within 2 business days or
before commencing operation, whichever is later. The owner or operator must keep records of the parameters that
are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis
program must be part of the maintenance plan for the engine.

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and
other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement
that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this
subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance
demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76
percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of
formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average
reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a
site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are
operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.
(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O2 using one of the O2 measurement methods specified in Table 4 of this subpart. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O2 emissions simultaneously at the inlet and outlet of the control device.


Continuous Compliance Requirements

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:
(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O2 using one of the O2 measurement methods specified in Table 4 of this subpart. Measurements to determine O2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate a hazardous 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 emergency stationary RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.


§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).


Other Requirements and Information

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a
site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

*Alaska Railbelt Grid* means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*Backup power for renewable energy* means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

*Black start engine* means an engine whose only purpose is to start up a combustion turbine.

*CAA* means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Public Law 101-549, 104 Stat. 2399).
Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (e.g. biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).
(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

_Engine startup_ means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

_Four-stroke engine_ means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

_Gaseous fuel_ means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

_Gasoline_ means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

_Glycol dehydration unit_ means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

_Hazardous air pollutants (HAP)_ means any air pollutants listed in or pursuant to section 112(b) of the CAA.

_Institutional emergency stationary RICE_ means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

_ISO standard day conditions_ means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

_Landfill gas_ means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

_Leak burn engine_ means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

_Limited use stationary RICE_ means any stationary RICE that operates less than 100 hours per year.

_Liquefied petroleum gas_ means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

_Liquid fuel_ means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

_Major Source_, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;
(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

**Malfunction** means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

**Natural gas** means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

**Non-selective catalytic reduction (NSCR)** means an add-on catalytic nitrogen oxides (NOx) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NOx, CO, and volatile organic compounds (VOC) into CO2, nitrogen, and water.

**Oil and gas production facility** as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (i.e., remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

**Oxidation catalyst** means an add-on catalytic control device that controls CO and VOC by oxidation.

**Peaking unit or engine** means any standby engine intended for use during periods of high demand that are not emergencies.

**Percent load** means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

**Potential to emit** means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

**Production field facility** means those oil and gas production facilities located prior to the point of custody transfer.

**Production well** means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

**Propane** means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.
Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(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 O₂ and using NSCR;</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.¹</td>
</tr>
<tr>
<td>2. existing, new and reconstructed 4SRB stationary RICE &gt;500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 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 O₂ and not using NSCR.</td>
<td>Comply with any operating limitations approved by the Administrator.</td>
</tr>
</tbody>
</table>

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(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 O₂. 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 O₂ until June 15, 2007</td>
<td>Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.¹</td>
</tr>
<tr>
<td>2. 4SLB stationary RICE</td>
<td>a. Reduce CO emissions by 93 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O₂</td>
<td></td>
</tr>
</tbody>
</table>

¹Minimize 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
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:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following operating limitation, except during periods of startup . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.¹</td>
</tr>
<tr>
<td>2. Existing CI stationary RICE &gt;500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst</td>
<td>a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.¹</td>
</tr>
<tr>
<td>3. New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and</td>
<td>Comply with any operating limitations approved by the Administrator.</td>
</tr>
<tr>
<td>New and reconstructed 2SLB and CI stationary RICE &gt;500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and</td>
<td></td>
</tr>
</tbody>
</table>

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
For each . . . | You must meet the following operating limitation, except during periods of startup . . .
---|---
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.

1Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

| For each . . . | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . . |
---|---|---|
1. Emergency stationary CI RICE and black start stationary CI RICE<sup>1</sup> | a. Change oil and filter every 500 hours of operation or annually, whichever comes first.<sup>2</sup>  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup> | Minimize the engine’s time spent at idle and minimize the engine’s startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.<sup>3</sup> |
2. Non-Emergency, non-black start stationary CI RICE <100 HP | a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.<sup>2</sup>  
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;  
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.<sup>3</sup> |  |
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP | Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O<sub>2</sub>. |  |
<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must meet the following requirement, except during periods of startup . . .</th>
<th>During periods of startup you must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Non-Emergency, non-black start CI stationary RICE 300&lt;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 . . . | You must meet the following requirement, except during periods of startup . . . | During periods of startup you must . . .
---|---|---
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500 | Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O₂. |  
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500 | Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O₂. |  
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500 | Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O₂. |  
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 | Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O₂. | 

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. |  |
<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; 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; b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.</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; b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</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; 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>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>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</td>
</tr>
<tr>
<td>10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP</td>
<td>a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;(^1)</td>
<td>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.</td>
</tr>
<tr>
<td>11. Non-emergency, non-black start 4SRB remote stationary RICE &gt;500 HP</td>
<td>a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;(^1)</td>
<td>b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.</td>
</tr>
<tr>
<td>12. Non-emergency, non-black start 4SRB stationary RICE &gt;500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year</td>
<td>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>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and</td>
</tr>
</tbody>
</table>
For each . . . & You must meet the following requirement, except during periods of startup . . . & During periods of startup you must . . .
---
| & | c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. |

1Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

2If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You must . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New or reconstructed 2SLB stationary RICE &gt;500 HP located at major sources; new or reconstructed 4SLB stationary RICE &gt;250 HP located at major sources; and new or reconstructed CI stationary RICE &gt;500 HP located at major sources</td>
<td>Reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>2. 4SRB stationary RICE ≥5,000 HP located at major sources</td>
<td>Reduce formaldehyde emissions</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>3. Stationary RICE &gt;500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources</td>
<td>Limit the concentration of formaldehyde in the stationary RICE exhaust</td>
<td>Conduct subsequent performance tests semiannually.¹</td>
</tr>
<tr>
<td>4. Existing non-emergency, non-black start CI stationary RICE &gt;500 HP that are not limited use stationary RICE</td>
<td>Limit or reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.</td>
</tr>
<tr>
<td>5. Existing non-emergency, non-black start CI stationary RICE &gt;500 HP that are limited use stationary RICE</td>
<td>Limit or reduce CO emissions and not using a CEMS</td>
<td>Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.</td>
</tr>
</tbody>
</table>

¹After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]
Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You must . . .</th>
<th>Using . . .</th>
<th>According to the following requirements . . .</th>
</tr>
</thead>
<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>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)abc (heated probe not necessary)</td>
<td>(a) For CO and O₂ 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 O₂ must be made at the same time as the measurements for CO concentration.</td>
</tr>
<tr>
<td></td>
<td>ii. Measure the O₂ at the inlet and outlet of the control device; and</td>
<td></td>
<td>(1) ASTM D6522-00 (Reapproved 2005)abc (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Measure the CO at the inlet and the outlet of the control device</td>
<td></td>
<td>(c) The CO concentration must be at 15 percent O₂, dry basis.</td>
<td></td>
</tr>
</tbody>
</table>
### 2. 4SRB stationary RICE

#### a. reduce formaldehyde emissions

<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></td>
<td></td>
<td></td>
<td></td>
<td>(a) For formaldehyde, O&lt;sub&gt;2&lt;/sub&gt;, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.</td>
</tr>
</tbody>
</table>

#### i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and

|          |                                          |                |            | (a) Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde or THC concentration. |

#### ii. Measure O<sub>2</sub> at the inlet and outlet of the control device; and

|          |                                          |                |            | (a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration. |

#### iii. Measure moisture content at the inlet and outlet of the control device; and

|          |                                          |                |            | (a) Formaldehyde concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |

#### iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device

|          |                                          |                |            | (a) THC concentration must be at 15 percent O<sub>2</sub>, dry basis. Results of this test consist of the average of the three 1-hour or longer runs. |

#### v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device

|          |                                          |                |            | (1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D 6348-03<sup>a</sup>, provided in ASTM D 6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130 |

#### iv. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device

|          |                                          |                |            | (1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7 |

### Notes:

- Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)<sup>a</sup> (heated probe not necessary)
- 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<sup>a</sup>
### 3. Stationary RICE

<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></td>
<td>a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust</td>
<td>i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and</td>
<td>(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)(^a) (heated probe not necessary)</td>
<td>(a) For formaldehyde, CO, O(_2), and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts &gt;6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is &gt;12 inches in diameter and the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.</td>
</tr>
<tr>
<td></td>
<td>ii. Determine the O(_2) concentration of the stationary RICE exhaust at the sampling port location; and</td>
<td>(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03(^a)</td>
<td>(a) Measurements to determine O(_2) concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and</td>
<td>(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03(^a), provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130</td>
<td>(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv. Measure formaldehyde at the exhaust of the stationary RICE; or</td>
<td>(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)(^c); Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03(^a)</td>
<td>(a) 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>
<td></td>
</tr>
<tr>
<td></td>
<td>v. measure CO at the exhaust of the stationary RICE</td>
<td></td>
<td>(a) CO concentration must be at 15 percent O(_2), dry basis. Results of this test consist of the average of the three 1-hour or longer runs.</td>
<td></td>
</tr>
</tbody>
</table>
You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>Complying with the requirement to . . .</th>
<th>You have demonstrated initial compliance if . . .</th>
</tr>
</thead>
<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>
</tr>
<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>
<tr>
<td>---------------</td>
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<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>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor 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>9. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</td>
<td>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</td>
</tr>
<tr>
<td>10. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</td>
<td>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</td>
</tr>
<tr>
<td>11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300&lt;HP≤500 located at an area source of HAP</td>
<td>a. Reduce CO emissions</td>
<td>i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.</td>
</tr>
</tbody>
</table>
For each . . . | Complying with the requirement to . . . | You have demonstrated initial compliance if . . .
---|---|---
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP | a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust | i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are 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.

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:

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></td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</td>
<td></td>
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<tr>
<td></td>
<td>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
<td></td>
</tr>
<tr>
<td>2. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS</td>
<td>i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td>3. New or reconstructed non-emergency 2SLB stationary RICE &gt;500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency CI stationary RICE &gt;500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE &gt;500 HP</td>
<td>a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS</td>
<td>i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.</td>
</tr>
<tr>
<td>4. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions and using NSCR</td>
<td>i. Collecting the catalyst inlet temperature data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
</tbody>
</table>
For each . . . & Complying with the requirement to . . . & You must demonstrate continuous compliance by . . .

<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>5. Non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions and not using NSCR</td>
<td>i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
</tr>
<tr>
<td>6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP</td>
<td>a. Reduce formaldehyde emissions</td>
<td>ii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td>7. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</td>
<td>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; and</td>
</tr>
<tr>
<td>8. New or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</td>
<td>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; and</td>
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<tr>
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<td></td>
<td>ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
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<td>iii. Reducing these data to 4-hour rolling averages; and</td>
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<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</td>
</tr>
<tr>
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<td>iii. Reducing these data to 4-hour rolling averages; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</td>
</tr>
</tbody>
</table>
### For each . . .

<table>
<thead>
<tr>
<th>Complying with the requirement to . . .</th>
<th>You must demonstrate continuous compliance by . . .</th>
</tr>
</thead>
<tbody>
<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></td>
</tr>
<tr>
<td>a. Work or Management practices</td>
<td>i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</td>
</tr>
<tr>
<td>10. Existing stationary CI RICE &gt;500 HP that are not limited use stationary RICE</td>
<td>a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst</td>
</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>
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</tr>
<tr>
<td></td>
<td>i. Reducing these data to 4-hour rolling averages; and</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>
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<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>
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<tr>
<td>For each . . .</td>
<td>Complying with the requirement to . . .</td>
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<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>

*aAfter you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]
Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

<table>
<thead>
<tr>
<th>For each . . .</th>
<th>You must submit a . . .</th>
<th>The report must contain . . .</th>
<th>You must submit the report . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE &gt;500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE &gt;500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE &gt;300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE &gt;500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</td>
<td>Compliance report</td>
<td>a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or</td>
<td>i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.</td>
</tr>
<tr>
<td></td>
<td></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>
For each . . . | You must submit a . . . | The report must contain . . . | You must submit the report . . .
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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>
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</tr>
<tr>
<td>§63.6(j)</td>
<td>Presidential compliance exemption</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)(1)-(2)</td>
<td>Performance test dates</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(a)(3)</td>
<td>CAA section 114 authority</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(b)(1)</td>
<td>Notification of performance test</td>
<td>Yes</td>
<td>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 under section 114 of the CAA</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(f)</td>
<td>Alternative test method provisions</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(g)</td>
<td>Performance test data analysis, recordkeeping, and reporting</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.7(h)</td>
<td>Waiver of tests</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(1)</td>
<td>Applicability of monitoring requirements</td>
<td>Yes</td>
<td>Subpart ZZZZ contains specific requirements for monitoring at §63.6625.</td>
</tr>
<tr>
<td>§63.8(a)(2)</td>
<td>Performance specifications</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(3)</td>
<td>[Reserved]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§63.8(a)(4)</td>
<td>Monitoring for control devices</td>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>§63.8(b)(1)</td>
<td>Monitoring</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(b)(2)-(3)</td>
<td>Multiple effluents and multiple monitoring systems</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)</td>
<td>Monitoring system operation and maintenance</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(i)</td>
<td>Routine and predictable SSM</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(ii)</td>
<td>SSM not in Startup Shutdown Malfunction Plan</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(1)(iii)</td>
<td>Compliance with operation and maintenance requirements</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(2)-(3)</td>
<td>Monitoring system installation</td>
<td>Yes.</td>
<td></td>
</tr>
<tr>
<td>§63.8(c)(4)</td>
<td>Continuous monitoring system (CMS) requirements</td>
<td>Yes</td>
<td>Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).</td>
</tr>
<tr>
<td>§63.8(c)(5)</td>
<td>COMS minimum procedures</td>
<td>No</td>
<td>Subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>§63.8(c)(6)-(8)</td>
<td>CMS requirements</td>
<td>Yes</td>
<td>Except that subpart ZZZZ does not require COMS.</td>
</tr>
<tr>
<td>General provisions citation</td>
<td>Subject of citation</td>
<td>Applies to subpart</td>
<td>Explanation</td>
</tr>
<tr>
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<tr>
<td>§63.8(d)</td>
<td>CMS quality control</td>
<td>Yes</td>
<td>Except for §63.8(e)(5)(ii), which applies to COMS.</td>
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<tr>
<td>§63.8(e)</td>
<td>CMS performance evaluation</td>
<td>Yes</td>
<td>Except that §63.8(e) only applies as specified in §63.6645.</td>
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<td>§63.8(f)(1)-(5)</td>
<td>Alternative monitoring method</td>
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<td>Except that §63.8(f)(4) only applies as specified in §63.6645.</td>
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<td>Alternative to relative accuracy test</td>
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</tr>
<tr>
<td>§63.8(g)</td>
<td>Data reduction</td>
<td>Yes</td>
<td>Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.</td>
</tr>
<tr>
<td>§63.9(a)</td>
<td>Applicability and State delegation of notification requirements</td>
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<tr>
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<td>Initial notifications</td>
<td>Yes</td>
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<td>§63.9(c)</td>
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<td>§63.9(d)</td>
<td>Notification of special compliance requirements for new sources</td>
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<td>Notification of visible emission (VE)/opacity test</td>
<td>No</td>
<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
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<td>Notification of use of COMS data</td>
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<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
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<td>Notification that criterion for alternative to RATA is exceeded</td>
<td>Yes</td>
<td>If alternative is in use.</td>
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<td>§63.9(h)(1)-(6)</td>
<td>Notification of compliance status</td>
<td>Yes</td>
<td>Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.</td>
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<td>§63.9(i)</td>
<td>Adjustment of submittal deadlines</td>
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<td>Explanation</td>
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<td>§63.10(b)(2)(vi)-(xi)</td>
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<td>§63.10(b)(2)(xii)</td>
<td>Record when under waiver</td>
<td>Yes.</td>
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<td>§63.10(b)(2)(xiii)</td>
<td>Records when using alternative to RATA</td>
<td>Yes.</td>
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<td>§63.10(b)(2)(xiv)</td>
<td>Records of supporting documentation</td>
<td>Yes.</td>
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<td>§63.10(b)(3)</td>
<td>Records of applicability determination</td>
<td>Yes.</td>
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<td>Additional records for sources using CEMS</td>
<td>Yes.</td>
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<td>General reporting requirements</td>
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<td>Report of performance test results</td>
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<td>Subpart ZZZZ does not contain opacity or VE standards.</td>
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<td>Progress reports</td>
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<td>Startup, shutdown, and malfunction reports</td>
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<td>§63.10(e)(1) and (2)(i)</td>
<td>Additional CMS Reports</td>
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<td>§63.10(e)(2)(ii)</td>
<td>COMS-related report</td>
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<td>Subpart ZZZZ does not require COMS.</td>
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<td>Excess emission and parameter exceedances reports</td>
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<td>Reporting COMS data</td>
<td>No.</td>
<td>Subpart ZZZZ does not require COMS.</td>
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<td>Waiver for recordkeeping/reporting</td>
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<td>Flares</td>
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<td>§63.12</td>
<td>State authority and delegations</td>
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<td>§63.13</td>
<td>Addresses</td>
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<td>§63.14</td>
<td>Incorporation by reference</td>
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<td>§63.15</td>
<td>Availability of information</td>
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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>
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<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>
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<tr>
<td>Oxygen (O₂)</td>
<td>7782-44-7</td>
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</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 de-gas 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 O\textsubscript{2}. 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 O\textsubscript{2}) is acceptable for calibration of the O\textsubscript{2} cell. If needed, any lower percentage O\textsubscript{2} calibration gas must be a mixture of O\textsubscript{2} 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 O\textsubscript{2} Calibration Gas Concentration.

Select an O\textsubscript{2} 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 O\textsubscript{2}. When the average exhaust gas O\textsubscript{2} readings are above 6 percent, you may use dry ambient air (20.9 percent O\textsubscript{2}) for the up-scale O\textsubscript{2} 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., CO\textsubscript{2}).

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 O\textsubscript{2} 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


Table 1: Appendix A—Sampling Run Data.

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<td>Pre-Sample Calibration</td>
<td>Stack Gas Sample</td>
<td>Post-Sample Cal. Check</td>
<td>Repeatability Check</td>
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<td>3</td>
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<td>Gas</td>
<td>O₂</td>
<td>CO</td>
<td>O₂</td>
<td>CO</td>
<td>O₂</td>
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| 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 on or 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]
(c) 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. 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.

(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).

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 an electric generation (output) basis.

\[
\text{AveWeightedEmissions} = 1.1 \times \sum_{i=1}^{n} (Er \times Hm) + \sum_{i=1}^{n} Hm \quad \text{(Eq. 1a)}
\]

Where:

\(\text{AveWeightedEmissions} = \text{Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.}\)

\(Er = \text{Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input.}\)

\(Hm = \text{Maximum rated heat input capacity of unit, i, in units of million Btu per hour.}\)

\(n = \text{Number of units participating in the emissions averaging option.}\)

\(1.1 = \text{Required discount factor.}\)
AveWeightedEmissions = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times So)}{\sum_{i=1}^{n} So} \quad (Eq. 1b)

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output.

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 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 = Maximum steam output capacity of unit, i, in units of million Btu per hour, as defined in §63.7575.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

AveWeightedEmissions = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Eo)}{\sum_{i=1}^{n} Eo} \quad (Eq. 1c)

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour.

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 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 = Maximum electric generating output capacity of 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 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.

AveWeightedEmissions = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Sm \times Cj)}{\sum_{i=1}^{n} (Sm \times Cj)} \quad (Eq. 2)

Where:

AveWeightedEmissions = 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 to 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.

\[
\text{AveWeightedEmissions} = 1.1 \times \left( \frac{\sum_{i=1}^{n} (Er \times Hb)}{\sum_{i=1}^{n} Hb} \right)
\]  
\text{(Eq. 3a)}

Where:

\[
\text{AveWeightedEmissions} = \text{Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.}
\]

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.

\[
\text{AveWeightedEmissions} = 1.1 \times \left( \frac{\sum_{i=1}^{n} (Er \times So)}{\sum_{i=1}^{n} So} \right)
\]  
\text{(Eq. 3b)}

Where:

\[
\text{AveWeightedEmissions} = \text{Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.}
\]

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, $E_{\text{adj}}$, determined according to §63.7533 for that unit.

So = The steam output for that calendar month from unit, $i$, in units of million Btu, as defined in §63.7575.

$n = \text{Number of units participating in the emissions averaging option.}$

1.1 = Required discount factor.

$$\text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times So)}{\sum_{i=1}^{n} Er} \quad \text{(Eq. 3c)}$$

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 = \text{Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, } i, \text{ 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, $E_{\text{adj}}$, determined according to §63.7533 for that unit.}$

$So = \text{The electric generating output for that calendar month from unit, } i, \text{ in units of megawatt hour, as defined in §63.7575.}$

$n = \text{Number of units participating in the emissions averaging option.}$

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.

$$\text{AveWeightedEmissions} = 1.1 \times \frac{\sum_{i=1}^{n} (Er \times Sa \times Cfi)}{\sum_{i=1}^{n} Sa \times Cfi} \quad \text{(Eq. 4)}$$

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.

$Er = \text{Emission rate (as determined during the most recent compliance demonstration of PM (or TSM), HCl, or mercury from unit, } i, \text{ in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.}$

$Sa = \text{Actual steam generation for that calendar month by boiler, } i, \text{ in units of pounds.}$

$Cfi = \text{Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for boiler, } i.$

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.

\[ E_{\text{avg}} = \frac{\sum_{i=1}^{12} ER_i}{12} \quad \text{(pounds per million Btu heat input)} \]

Where:

\( E_{\text{avg}} \) = 12-month rolling average emission rate, (pounds per million Btu heat input)

\( ER_i \) = 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 demonstration, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.
(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.

\[ E_n = \sum_{i=1}^{n} (E_{Li} \times H_i) + \sum_{i=1}^{n} H_i \quad \text{(Eq. 6)} \]

Where:

\[ E_n = \text{HAP emission limit, pounds per million British thermal units (lb/MMBtu) or parts per million (ppm).} \]

\[ E_{Li} = \text{Appropriate emission limit from Table 2 to this subpart for unit } i, \text{ in units of lb/MMBtu or ppm.} \]

\[ H_i = \text{Heat input from unit } i, \text{ MMBtu.} \]

(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 be 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 O₂ 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 (milliamps).

(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.

\[ C_{\text{input}} = \sum_{i=1}^{n} (Ci \times Qi) \]  
(Eq. 7)

Where:

\( C_{\text{input}} = \) 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 (HGi).

(iii) You must establish a maximum mercury input level using Equation 8 of this section.

\[ \text{Mercuryinput} = \sum_{i=1}^{n} (HGi \times Qi) \]  
(Eq. 8)

Where:

\( \text{Mercuryinput} = \) Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

\( HGi = \) 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 (TSMinput) 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 (TSMi).

(iii) You must establish a maximum TSM input level using Equation 9 of this section.

\[
TSM_{\text{input}} = \sum_{i=1}^{n} (TSMi \times Qi)
\]

(Where:

TSM_{\text{input}} = \text{Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.}

TSMi = \text{Arithmetic average concentration of TSM in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.}

Qi = \text{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 = \text{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)(i) 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.

\[
R = \frac{Y_i}{(X_i - z)} \quad \text{(Eq. 11)}
\]
Where:

\( R \) = the relative lb/MMBtu per milliamp for your PM CPMS,

\( Y_1 \) = the three run average lb/MMBtu PM concentration,

\( X_1 \) = the three run average milliamp output from your PM CPMS, and

\( z \) = 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.

\[
O_h = z + \frac{0.75L}{R} \quad \text{(Eq. 12)}
\]

Where:

\( O_h \) = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.

\( L \) = your source emission limit expressed in lb/MMBtu,

\( z \) = your instrument zero in milliamps, determined from (B)(i), and

\( R \) = 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.

\[
O_h = \frac{1}{n} \sum_{i=1}^{n} X_{i} \quad \text{(Eq. 13)}
\]

Where:

\( X_1 \) = the PM CPMS data points for all runs i,

\( n \) = the number of data points, and

\( O_h \) = 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.

\[
30\text{-day} = \frac{\sum_{i=1}^{n} H_{pw}}{n} \quad \text{(Eq. 14)}
\]
Where:

30-day = 30-day average.

$H_{pvi} = i$ is the hourly parameter value for hour $i$

$n = i$ 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 instruments 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 SO$_2$ CEMS is to install and operate the SO$_2$ according to the requirements in §63.7525(m) establish a maximum SO$_2$ emission rate equal to the highest hourly average SO$_2$ 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.

Mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.

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 \( \text{HCl} \), the \( \text{HCl} \) 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 \( \text{HCl} \).

\[ \text{HCl} = \sum_{i=1}^{n} (Ci_{90} \times Qi \times 1.028) \quad \text{(Eq. 16)} \]

Where:

\( \text{HCl} \) = \( \text{HCl} \) 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 \( \text{HCl} \) 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.

\[ \text{Mercury} = \sum_{i=1}^{n} (Hgi_{90} \times Qi) \quad \text{(Eq. 17)} \]
Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

\[ \text{Hg}_{i90} = \text{90th percentile confidence level concentration of mercury in fuel, } i, \text{ in units of pounds per million Btu as calculated according to Equation 15 of this section.} \]

\[ Q_i = \text{Fraction of total heat input from fuel type, } i, \text{ based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for } Q_i. \]

\[ n = \text{Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.} \]

(5) 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.

\[ \text{Metals} = \sum_{i=1}^{n} (\text{TSM}_{i90} \times Q_i) \] (Eq. 18)

Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

\[ \text{TSM}_{i90} = 90\text{th percentile confidence level concentration of TSM in fuel, } i, \text{ in units of pounds per million Btu as calculated according to Equation 15 of this section.} \]

\[ Q_i = \text{Fraction of total heat input from fuel type, } i, \text{ based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for } Q_i. \]

\[ n = \text{Number of different fuel types burned in your boiler or process heater for the mixture that has the highest TSM content.} \]

(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:

(ii) 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 apportioned 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:

\[
ECredits = \left( \sum_{i=1}^{n} EIS_{\text{actual}, i} \right) + E_{\text{baseline}} \quad (Eq. 19)
\]

Where:

- \( ECredits \) = Energy Input Savings for all energy conservation measures implemented for an affected boiler, expressed as a decimal fraction of the baseline energy input.
- \( EIS_{\text{actual}, i} \) = Energy Input Savings for each energy conservation measure, \( i \), implemented for an affected boiler, million Btu per year.
- \( E_{\text{baseline}} \) = Energy Input baseline for the affected boiler, million Btu per year.
- \( n \) = 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.

\[
E_{aeq} = E_a \times (1 - ECredits) \quad (Eq. 20)
\]

Where:
Eadj = Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.

Em = 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 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 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)(i) 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
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).

(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 of 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 format 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 when 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, ESP 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.* (1) *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 of 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 (TBtu) 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 TBtu/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 TBtu/year will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 on-site technical labor hours for every additional 1.0 TBtu/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.

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 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 (S1), the energy content of turbine steam sent to process plus energy in electricity according to paragraph (2) of this definition (S2), 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, S1, S2, 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.

\[ SO_M = S_1 + S_2 + (MW(3) \times CF_n) \quad (Eq. \ 21) \]

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

CFn = Conversion factor for the appropriate subcategory for converting electricity generated according to paragraph (3) of this definition to equivalent steam energy, MMBtu/MWh

CFn for emission limits for boilers in the unit designed to burn solid fuel subcategory = 10.8

CFn PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal = 11.7

CFn 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/bio-based 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/bio-based 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 burn liquid fuel during periods of gas curtailment or gas supply interruptions 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
Geneva 20, Switzerland, + 41 22 749 01 11, [http://www.iso.org/iso/home.htm](http://www.iso.org/iso/home.htm), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 [http://www.stadards.org.au](http://www.stadards.org.au)), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, + 44 (0)20 8996 9001, [http://www.bsigroup.com](http://www.bsigroup.com)), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, [http://www.csa.ca](http://www.csa.ca)), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium + 32 2 550 08 11, [http://www.cen.eu/cen](http://www.cen.eu/cen)), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, + 49 211 6214-230, [http://www.vdi.eu](http://www.vdi.eu)). The types of standards that are not considered VCS are standards developed by: The United States, e.g., California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

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 DDDD 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:

[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>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>b. Mercury</td>
<td>8.0E-07 lbs per MMBtu of heat input</td>
<td>8.7E-07 lbs per MMBtu of steam output or 1.1E-05 lbs 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 D5784, collect a minimum of 4 dscm.</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 D5784, 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) 1.1E-03 lbs per MMBtu of heat input; or (2.3E-05 lbs per MMBtu of heat input)</td>
<td>1.1E-03 lbs per MMBtu of steam output or 1.4E-02 lbs per MWH; or (2.7E-05 lbs per MMBtu of steam output or 2.9E-04 lbs per MWH)</td>
<td>Collect a minimum of 3 dscm per run.</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) 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>
<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) 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>
<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) 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>
<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) 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>
<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) 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>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>Subcategory</td>
<td>Pollutants</td>
<td>Emission Limits</td>
<td>Sampling Duration</td>
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<td>If your boiler or process heater is in this subcategory.</td>
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<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>1 hr minimum sampling time.</td>
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<td>4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh</td>
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<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>
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<td></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>
<td></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; 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>
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<td>2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average</td>
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<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>
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<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>
<td></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; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
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<td>1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average</td>
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<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>
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<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>
<td></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>
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</tr>
<tr>
<td>11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>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, 10-day rolling average)</td>
<td>3.5E-01 lb per MMBtu of steam output or 3.6 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>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-05a 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, 30-day rolling average)</td>
<td>1.4 lb per MMBtu of steam output or 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 . . .
---|---|---|---|---
| b. Mercury | 4.8E-07 a lb per MMBtu of heat input | 5.3E-07 a lb per MMBtu of steam output or 6.7E-06 a lb per MWh | 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. |
| 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 | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 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) | 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) | Collect a minimum of 3 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 | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh | 1 hr minimum sampling time. |
| | b. Filterable PM (or TSM) | 1.1E-03 a lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input) | 1.2E-03 a lb per MMBtu of steam output or 1.6E-02 a lb per MWh; or (3.2E-05 lb per MMBtu of steam output or 4.0E-04 lb per MWh) | 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 | 0.13 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average | 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) | 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) | 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 | 0.16 lb per MMBtu of steam output or 1.0 lb per MWh | 1 hr minimum sampling time. |
| | b. HCl | 1.7E-03 lb per MMBtu of heat input | 2.9E-03 lb per MMBtu of steam output or 1.8E-02 lb per MWh | 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 . . .

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Limit</th>
<th>Sampling Volume or Test Run Duration</th>
</tr>
</thead>
<tbody>
<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 D6784b 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>

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.

Incorporated by reference, see §63.14.

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.

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 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>
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<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>
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<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 D6784 collect a minimum of 3 dscm.</td>
</tr>
<tr>
<td>2. Units designed 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</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>
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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) 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>
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</tr>
<tr>
<td>7. Stokers/sloped grate/others designed to burn wet biomass fuel</td>
<td>a. CO (or CEMS) 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>
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<td>b. Filterable PM (or TSM) 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>1 hr minimum sampling time. 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 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>
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</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM) 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>
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</tr>
<tr>
<td>9. Fluidized bed units designed to burn biomass/bio-based solid</td>
<td>a. CO (or CEMS) 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>
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</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM) 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>
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</table>
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 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>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>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>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, 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>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>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>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>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, 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>
<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>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>------------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<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>
</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>
</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>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>6.2E-02 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>
</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>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>7.9E-03 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>
</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>
</tr>
<tr>
<td></td>
<td>b. Filterable PM (or TSM)</td>
<td>2.7E-01 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>
</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>
</tr>
<tr>
<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>
</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>
</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>
</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>
</tr>
</tbody>
</table>

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.

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 CO\textsubscript{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\textsubscript{2} being added to, or removed from, the emissions gas stream as a result of limestone injection, scrubber media, etc.

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></td>
<td>a. A visual inspection of the boiler or process heater system.</td>
</tr>
<tr>
<td></td>
<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>
</tr>
<tr>
<td></td>
<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>
</tr>
<tr>
<td>If your unit is . . .</td>
<td>You must meet the following . . .</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>f. A list of cost-effective energy conservation measures that are within the facility's control.</td>
<td></td>
</tr>
<tr>
<td>g. A list of the energy savings potential of the energy conservation measures identified.</td>
<td></td>
</tr>
<tr>
<td>h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</td>
<td></td>
</tr>
</tbody>
</table>

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. OR (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.

\[^{a}\text{As specified in §63.7555(d)(13), the source may request an alternative timeframe with the PM controls requirement to the permitting authority (state, local, or tribal agency) that has been delegated authority for this subpart by EPA. The source must provide evidence that (1) it is unable to safely engage and operate the PM control(s) to meet the “fuel firing + 1 hour” requirement and (2) the PM control device is appropriately designed and sized to meet the filterable PM emission limit. It is acknowledged that there may be another control device that has been installed other than ESP that provides additional PM control (e.g., scrubber).}\]


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) scrubber[^{a}] 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 [^{a}]</td>
<td>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>
<tr>
<td>When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .</td>
<td>You must meet these operating limits . . .</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>b. 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.</td>
<td></td>
</tr>
</tbody>
</table>

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). | 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. |

| Maintain the minimum sorbent or carbon injection rate as defined in §63.7575 of this subpart. | 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). |

6. Any other add-on air pollution control type on a boiler or process heater not using a PM CPMS

| 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. | 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). |

| 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. | |

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 19.10-1981.²</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 19.10-1981.²</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 19.10-1981.¹</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>
<tr>
<td>4. Mercury</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 19.10-1981.¹</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 mercury emission concentration</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 at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784.²</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>5. CO</td>
<td>a. Select the 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 oxygen concentration of the stack gas</td>
<td>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 19.10-1981.²</td>
</tr>
<tr>
<td></td>
<td>c. 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>d. Measure the CO emission concentration</td>
<td>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.</td>
</tr>
</tbody>
</table>

¹Incorporated 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, ASTM D7430, ASTM D6883, 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>
</tbody>
</table>

2. HCl

| a. Collect fuel samples | Procedure in §63.7521(c) or ASTM D5192, ASTM D7430, ASTM D6883, ASTM D2234/D2234M (for coal) or ASTM D6323 (for coal or biomass), or EPA 3050 (for coal or biomass). |
| b. Composite fuel samples | Procedure in §63.7521(d) or equivalent. |
| c. Prepare composited fuel samples | EPA SW-846-3050B (for solid samples), ASTM D2013/D2013M (for coal), or ASTM D5198 (for biomass), or EPA 3050 (for equivalent. |
| d. Determine heat content of the fuel type | ASTM D5865 (for coal) or ASTM E711 (for biomass), ASTM D5864, ASTM D240 or equivalent. |
| e. Determine moisture content of the fuel type | ASTM D3173, ASTM E871, ASTM D5864, or ASTM D240 (for liquid fuels), or ASTM D4006 (for liquid fuels), or equivalent. |
| f. Measure chlorine concentration in fuel sample | 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. |
To conduct a fuel analysis for the following pollutant . . .

<table>
<thead>
<tr>
<th>You must . . .</th>
<th>Using . . .</th>
</tr>
</thead>
<tbody>
<tr>
<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

| a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter, or | Method 30B (M30B) at 40 CFR part 60, appendix A-8 of this chapter or ASTM D5954, ASTM D6350, ISO 6978-1:2003(E), or ISO 6978-2:2003(E), or EPA-1631 or equivalent. |
| b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater | 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. |

4. TSM

| a. Collect fuel samples | Procedure in §63.7521(c) or ASTM D5192, ASTM D7430, ASTM D6883, 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. |
| b. Composite fuel samples | Procedure in §63.7521(d) or equivalent. |
| c. Prepare composited fuel samples | EPA SW-846-3050B (for solid samples), ASTM D2013/D2013M (for coal), ASTM D5198 or TAPPI T266 (for biomass), or EPA 3050 or equivalent. |
| d. Determine heat content of the fuel type | ASTM D5865 (for coal) or ASTM E711 (for biomass), or ASTM D5864 for liquids and other solids, or ASTM D240 or equivalent. |
| e. Determine moisture content of the fuel type | ASTM D3173 or ASTM E871, 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. |
| f. Measure TSM concentration in fuel sample | ASTM D3683, ASTM D4606, or ASTM D6357 or EPA 200.8 or EPA SW-846-6020, or EPA SW-846-6020A, or EPA SW-846-6001C, or EPA 7060 or EPA 7060A (for arsenic only), or EPA SW-846-7740 (for selenium only). |
| g. Convert concentrations into units of pounds of TSM per MMBtu of heat content | For fuel mixtures use Equation 9 in §63.7530. |

*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>
<tr>
<td>If you have an applicable emission limit for . . .</td>
<td>And your operating limits are based on . . .</td>
<td>You must . . .</td>
<td>Using . . .</td>
<td>According to the following requirements</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>2. HCl</td>
<td>a. Wet scrubber operating parameters</td>
<td>i. Establish site-specific minimum effluent pH and flow rate operating limits according to §63.7530(b)</td>
<td>(1) Data from the pH and liquid flow-rate monitors and the HCl performance test</td>
<td>(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.</td>
</tr>
<tr>
<td></td>
<td>b. Dry scrubber operating parameters</td>
<td>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</td>
<td>(1) Data from the sorbent injection rate monitors and the HCl or mercury performance test</td>
<td>(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.</td>
</tr>
<tr>
<td></td>
<td>c. Alternative Maximum SO₂ emission rate</td>
<td>i. Establish a site-specific maximum SO₂ emission rate operating limit according to §63.7530(b)</td>
<td>(1) Data from SO₂ CEMS and the HCl performance test</td>
<td>(a) You must collect the SO₂ emissions data according to §63.7525(m) during the most recent HCl performance tests. (b) The maximum SO₂ emission rate is equal to the highest hourly average SO₂ emission rate measured during the most recent HCl performance tests.</td>
</tr>
<tr>
<td>If you have an applicable emission limit for . . .</td>
<td>And your operating limits are based on . . .</td>
<td>You must . . .</td>
<td>Using . . .</td>
<td>According to the following requirements</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>3. Mercury</td>
<td>a. Activated carbon injection</td>
<td>i. Establish a site-specific minimum activated carbon injection rate operating limit according to §63.7530(b)</td>
<td>(1) Data from the activated carbon rate monitors and mercury performance test</td>
<td>(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.</td>
</tr>
<tr>
<td>4. Carbon monoxide for which compliance is demonstrated by a performance test</td>
<td>a. Oxygen</td>
<td>i. Establish a unit-specific limit for minimum oxygen level according to §63.7530(b)</td>
<td>(1) Data from the oxygen analyzer system specified in §63.7525(a)</td>
<td>(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.</td>
</tr>
<tr>
<td>5. Any pollutant for which compliance is demonstrated by a performance test</td>
<td>a. Boiler or process heater operating load</td>
<td>i. Establish a unit specific limit for maximum operating load according to §63.7520(c)</td>
<td>(1) Data from the operating load monitors or from steam generation monitors</td>
<td>(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.</td>
</tr>
</tbody>
</table>

*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 DDDD 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>
<tbody>
<tr>
<td>1. Opacity</td>
<td>a. Collecting the opacity monitoring system data according to §63.7525(c) and §63.7535; and</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the opacity monitoring data to 6-minute averages; and</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>2. PM CPMS</td>
<td>a. Collecting the PM CPMS output data according to §63.7525;</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td>3. Fabric Filter Bag Leak Detection Operation</td>
<td>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.</td>
</tr>
<tr>
<td>4. Wet Scrubber Pressure Drop and Liquid Flow-rate</td>
<td>a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.7525 and 63.7535; and</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td>5. Wet Scrubber pH</td>
<td>a. Collecting the pH monitoring system data according to §§63.7525 and 63.7535; and</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>c. Maintaining the 30-day rolling average pH at or above the operating limit established during the performance test according to §63.7530(b).</td>
</tr>
<tr>
<td>6. Dry Scrubber Sorbent or Carbon Injection Rate</td>
<td>a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§63.7525 and 63.7535; and</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>7. Electrostatic Precipitator Total Secondary Electric Power Input</td>
<td>a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to §§63.7525 and 63.7535; and</td>
</tr>
<tr>
<td></td>
<td>b. Reducing the data to 30-day rolling averages; and</td>
</tr>
</tbody>
</table>
If you must meet the following operating limits or work practice standards . . .

You must demonstrate continuous compliance by . . .

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).

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. SO₂ emissions using SO₂ CEMS

a. Collecting the SO₂ CEMS output data according to §63.7525;

b. Reducing the data to 30-day rolling averages; and

c. Maintaining the 30-day rolling average SO₂ CEMS emission rate to a level at or below the highest hourly SO₂ 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>
<th>You must submit the report . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compliance report</td>
<td>a. Information required in §63.7550(c)(1) through (5); and</td>
<td>Semiannually, annually, biennially, or every 5 years according to the requirements in §63.7550(b).</td>
</tr>
</tbody>
</table>
You must submit a(n) 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 DDDDD</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>§63.6(f)(1)</td>
<td>Startup, shutdown, and malfunction exemptions for non-opacity</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td>emission standards.</td>
<td></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 DDDDD 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 DDDDD specifies conditions for conducting performance tests at §63.7520(a) to (c).</td>
</tr>
<tr>
<td>§63.7(e)(2) to (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)</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)</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>
<tr>
<td>Citation</td>
<td>Subject</td>
<td>Applies to subpart DDDDD</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>§63.10(d)(5)</td>
<td>Startup, shutdown, and malfunction reports</td>
<td>No. See §63.7550(c)(11) for malfunction reporting requirements.</td>
</tr>
<tr>
<td>§63.10(e)</td>
<td>Additional reporting requirements for sources with CMS</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.10(f)</td>
<td>Waiver of recordkeeping or reporting requirements</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.11</td>
<td>Control Device Requirements</td>
<td>No.</td>
</tr>
<tr>
<td>§63.12</td>
<td>State Authority and Delegation</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.13-63.16</td>
<td>Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions</td>
<td>Yes.</td>
</tr>
<tr>
<td>§63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.8(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).</td>
<td>Reserved</td>
<td>No.</td>
</tr>
</tbody>
</table>


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^a 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^b 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 D6784^b collect a minimum of 4 dscm.</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>
<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 (2.6E-05 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...

<table>
<thead>
<tr>
<th>Pollutant Type</th>
<th>Emission Limit</th>
<th>Sampling Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12. Suspension burners designed to burn biomass/bio-based solids</strong></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, c 10-day rolling average)</td>
<td>1 hr minimum sampling time</td>
</tr>
<tr>
<td><strong>b. Filterable PM (or TSM)</strong></td>
<td>3.0E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run</td>
</tr>
<tr>
<td><strong>13. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids</strong></td>
<td>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, c 10-day rolling average)</td>
<td>1 hr minimum sampling time</td>
</tr>
<tr>
<td><strong>b. Filterable PM (or TSM)</strong></td>
<td>8.0E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run</td>
</tr>
<tr>
<td><strong>14. Fuel cell units designed to burn biomass/bio-based solids</strong></td>
<td>910 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><strong>b. Filterable PM (or TSM)</strong></td>
<td>2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run</td>
</tr>
<tr>
<td><strong>15. Hybrid suspension grate boiler designed to burn biomass/bio-based solids</strong></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, c 30-day rolling average)</td>
<td>1 hr minimum sampling time</td>
</tr>
<tr>
<td><strong>b. Filterable PM (or TSM)</strong></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><strong>16. Units designed to burn liquid fuel</strong></td>
<td>4.4E-04 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><strong>b. Mercury</strong></td>
<td>4.8E-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>
</tbody>
</table>
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></td>
<td>b. Filterable PM (or TSM) 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></td>
<td>b. Filterable PM (or TSM) 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></td>
<td>b. Filterable PM (or TSM) 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></td>
<td>b. HCl 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 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) 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, 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.

bIncorporated by reference, see §63.14.

cAn 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
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 . . .
---|---|---|---
1. Units in all subcategories designed to burn solid fuel 
   a. HCl | 0.022 lb per MMBtu of heat input | For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
   b. Mercury | 3.5E-06\(^a\) 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\(^b\) collect a minimum of 3 dscm.
2. Units designed to burn coal/solid fossil fuel 
   a. 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.
3. Pulverized coal boilers designed to burn coal/solid fossil fuel 
   a. Carbon monoxide (CO) (or CEMS) | 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,\(^c\) 30-day rolling average) | 1 hr minimum sampling time.
4. Stokers designed to burn coal/solid fossil fuel 
   a. CO (or CEMS) | 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,\(^c\) 10-day rolling average) | 1 hr minimum sampling time.
5. Fluidized bed units designed to burn coal/solid fossil fuel 
   a. CO (or CEMS) | 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,\(^c\) 30-day rolling average) | 1 hr minimum sampling time.
6. Fluidized bed units with an integrated heat exchanger designed to burn coal/solid fossil fuel 
   a. CO (or CEMS) | 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,\(^c\) 30-day rolling average) | 1 hr minimum sampling time.
7. 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 (390 ppm by volume on a dry basis corrected to 3 percent oxygen,\(^c\) 30-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.
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 . . .
---|---|---|---
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) | 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. |
| 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. |
10. 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) | 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. |
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids | a. CO (or CEMS) | 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. |
| b. Filterable PM (or TSM) | 3.2E-03 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input) | 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) | 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. |
| 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. |
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 . . .
--- | --- | --- | ---

| 15. Units designed to burn heavy liquid fuel | b. Mercury | 4.8E-07a 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 D6784b collect a minimum of 4 dscm. |

| 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. |

| 16. Units designed to burn light liquid fuel | 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. |

| 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 | 1 hr minimum sampling time. |

| 17. Units designed to burn liquid fuel that are non-continental units | 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. |

| 18. Units designed to burn gas 2 (other) gases | 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. |

| 18. Units designed to burn gas 2 (other) gases | 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 D6784b collect a minimum of 3 dscm. |

| 18. Units designed to burn gas 2 (other) gases | 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. |

---

*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.
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>
<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>
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<td>-------------------------------------------------------------</td>
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</tr>
<tr>
<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>
<td></td>
</tr>
<tr>
<td>6. 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 (410 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>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>
<td></td>
</tr>
<tr>
<td>7. 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>1 hr minimum sampling time.</td>
</tr>
<tr>
<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>Collect a minimum of 2 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>8. 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>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>9.8E-03 lb per MMBtu of heat input; or (6.3E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 3 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>9. 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 hr minimum sampling time.</td>
</tr>
<tr>
<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>Collect a minimum of 2 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids</td>
<td>a. CO (or CEMS)</td>
<td>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)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>3.6E-02 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>11. 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 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td>Collect a minimum of 2 dscm per run.</td>
<td></td>
</tr>
<tr>
<td>12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids</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 (900 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 . . . |
<table>
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<tbody>
<tr>
<td>13. Units designed to burn liquid fuel</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>a. HCl</td>
<td>1.2E-03 lb per MMBtu of heat input</td>
<td></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>b. Mercury</td>
<td>4.9E-07 \textsuperscript{a} lb per MMBtu of heat input</td>
<td></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\textsuperscript{b} 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,\textsuperscript{c} 10-day rolling average)</td>
<td>1 hr minimum sampling time.</td>
</tr>
<tr>
<td>b. Filterable PM (or TSM)</td>
<td>1.1E-03 \textsuperscript{a} lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)</td>
<td></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,\textsuperscript{c} 1-day block average)</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></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>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></td>
<td>Collect a minimum of 2 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>b. HCl</td>
<td>1.7E-03 lb per MMBtu of heat input</td>
<td></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></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\textsuperscript{b} 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></td>
<td>Collect a minimum of 3 dscm per run.</td>
</tr>
</tbody>
</table>

\textsuperscript{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 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.

bIncorporated by reference, see §63.14.

cAn 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.

Source Description and Location

Source Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, Indiana 47501
County: Daviess
SIC Code: 2046 (Wet Corn Milling)
2048 (Prepared Feed and Feed Ingredients for Animals and Fowls, Except Dogs and Cats)
2085 (Distilled and Blended Liquors)
2099 (Food Preparations, Not Elsewhere Classified)
2869 (Industrial Organic Chemicals, Not Elsewhere Classified)

Permit Renewal No.: T 027-42694-00046
Permit Reviewer: Tamera Wessel

On March 23, 2020, Grain Processing Corporation 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 Grain Processing Corporation relating to the operation of a corn wet milling plant. Grain Processing Corporation was issued its first Part 70 Operating Permit Renewal (T 027-31396-00046) on December 22, 2015.

Existing Approvals

The source was issued its first Part 70 Operating Permit Renewal No. T 027-31396-00046 on December 22, 2015. 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>Administrative Amendment</td>
<td>027-36818-00046</td>
<td>March 17, 2016</td>
</tr>
<tr>
<td>PSD/Significant Source Modification</td>
<td>027-37645-00046</td>
<td>September 14, 2017</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>027-37916-00046</td>
<td>October 4, 2017</td>
</tr>
<tr>
<td>Significant Source Modification</td>
<td>027-39311-00046</td>
<td>September 20, 2018</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>027-39457-00046</td>
<td>September 27, 2018</td>
</tr>
<tr>
<td>Significant Source Modification</td>
<td>027-42301-00046</td>
<td>August 28, 2020</td>
</tr>
<tr>
<td>Significant Permit Modification</td>
<td>027-42326-00046</td>
<td>September 18, 2020</td>
</tr>
</tbody>
</table>

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) One (1) Corn Processing Operation, consisting of:

(1) One (1) Truck and Railcar Corn Unloading Process, installed in March 2000, consisting of:
(A) One (1) Truck/Railcar Unloading Pit and one (1) Truck Unloading Pit, each equipped with one (1) totally enclosed Drag Pit Conveyor System, unloading corn at a combined nominal design rate of 855,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as CPC01 (Grain Unloading Baghouse), with all emissions exhausted through Stack CP01.

(B) One (1) totally enclosed Truck and Railcar Corn Unloading Process Discharge Conveyor System, conveying corn received from the Truck/Railcar and/or Truck Unloading Drag Pit Conveyor Systems to the Corn Storage Silo System at a nominal design rate of 855,000 pounds per hour.

(2) One (1) Corn Storage System, consisting of five (5) storage silos constructed in 2000, designated as Silos A, B, C, D, and E and one (1) storage silo constructed in 2006 designated as Silo F, with a combined maximum design capacity of 53,200,000 pounds, storing corn received from the Truck and Railcar Corn Unloading Process Discharge Conveyor System, with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(3) One (1) Corn Cleaning Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Corn Storage System Receiving Conveyor System, conveying corn received from the Corn Storage System to the Corn Cleaning System at a nominal design rate of 560,000 pounds per hour.

(B) One (1) Corn Cleaning System, cleaning corn received from the Corn Storage System Receiving Conveyor System at a nominal design rate of 560,000 pounds per hour; with particulate emissions controlled by one (1) baghouse, identified as FPC05 (Corn Receiving Transfer Dust Collector), with all emissions exhausted through Stack FP05.

(C) One (1) totally enclosed Corn Cleaning Process Discharge Conveyor System, conveying corn received from the Corn Cleaning System to the Corn Steeping Tank System at a nominal design rate of 560,000 pounds per hour.

(4) One (1) Corn Steeping Process, installed in March 2000 and modified in 2008, consisting of:

(A) One (1) Corn Steeping Tank System, installed in 2000, with two (2) additional steep tanks installed in 2008, softening corn received from the Corn Cleaning Process Discharge Conveyor System at a nominal design rate of 560,000 pounds per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.

(B) One (1) totally enclosed Corn Steeping Tank System Discharge Conveyor System, conveying steeped corn received from the Corn Steeping Tank System to the Steeped Corn Dewatering System at a nominal design rate of 321,000 pounds per hour.

(C) One (1) Steeped Corn Dewatering System, consisting of two (2) Dewatering Screens, separating water from the softened corn received from the Corn Steeping Tank System Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, yielding a maximum of 168,000 pounds of steeped corn per hour and 150,000 pounds of steep water per hour, with SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC06 (Steep Area Scrubber), with all emissions exhausted through Stack FP06.
(D) One (1) totally enclosed Steeped Corn Discharge Conveyor System, conveying steeped corn received from the Steeped Corn Dewatering System to the Corn Germ, Fiber, Gluten, and Starch Separation Process Primary Mill Area at a nominal design rate of 168,000 pounds per hour.

(E) One (1) totally enclosed Steep Water Discharge Conveyor System, conveying steep water received from the Steeped Corn Dewatering System to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 100,000 pounds per hour and/or Corn Steep and Alcohol Stillage Evaporation System at a nominal design rate of 50,000 pounds per hour.

(5) One (1) Corn Germ, Fiber, Gluten, and Starch Separation Process, installed in March 2000 and modified in 2008, milling corn received from the Steeped Corn Discharge Conveyor System, consisting of:

(A) One (1) Primary Milling System, consisting of:

(i) One (1) Primary Mill Area, grinding softened corn and supplemental water received from the Steeped Corn Discharge Conveyor System at a nominal design rate of 321,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Primary Milling System Discharge Conveyor System, conveying milled corn received from the Primary Mill Area to the Germ Separation Area at a nominal design rate of 321,000 pounds per hour.

(B) One (1) Germ Separation System, consisting of:

(i) One (1) Germ Separation Area, separating germ from the corn received from the Primary Milling System Discharge Conveyor System at nominal design rate of 321,000 pounds per hour, yielding a maximum of 36,000 pounds of germ per hour and 285,000 pounds of remnant corn, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.

(ii) One (1) totally enclosed Germ Separation System Germ Discharge Conveyor System, conveying germ received from the Germ Separation Area to the Germ Dryer at a nominal design rate of 36,000 pounds per hour.

(iii) One totally enclosed Germ Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Germ Separation Area to the Secondary Milling System at a nominal design rate of 285,000 pounds per hour.

(C) One (1) Secondary Milling System, consisting of:

(i) One (1) Secondary Milling Area, grinding softened corn remnants received from the Germ Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 285,000 pounds per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC07 (Mill Area Scrubber), with all emissions exhausted through Stack FP07.
(ii) One (1) totally enclosed Secondary Milling System Discharge Conveyor System, conveying milled corn remnants received from the Secondary Milling Area to the Fiber Separation Area at a nominal design rate of 285,000 pounds per hour.

(D) One (1) Fiber Separation System, consisting of:

(i) One (1) Fiber Separation Area, separating fiber received from the Secondary Milling System Discharge Conveyor System at a nominal design rate of 285,000 pounds per hour, with a design maximum of 202,500 pounds of supplemental water added per hour, yielding a maximum of 115,000 pounds of fiber per hour and 372,500 pounds of remnant corn per hour, with particulate and SO2 emissions from the separation process controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Fiber Separation System Fiber Discharge Conveyor System, conveying fiber received from the Fiber Separation Area to the Corn Gluten Feed Dryer at a nominal design rate of 115,000 pounds per hour.

(iii) One (1) totally enclosed Fiber Separation System Remnant Corn Discharge Conveyor System, conveying remnant corn received from the Fiber Separation Area to the Starch and Gluten Separation Area at a nominal design rate of 372,500 pounds per hour.

(E) One (1) Starch and Gluten Separation System, consisting of:

(i) One (1) Starch and Gluten Separation Area, separating starch and gluten from the softened corn remnants received from the Fiber Separation System Remnant Corn Discharge Conveyor System at a nominal design rate of 372,500 pounds per hour, yielding a maximum of 338,750 pounds of starch per hour and 33,750 pounds of gluten per hour, with particulate and SO2 emissions controlled by one (1) caustic wet scrubber, identified as FPC27 (Feed Area Scrubber), with all emissions exhausted through Stack FP27.

(ii) One (1) totally enclosed Starch and Gluten Separation System Starch Discharge Conveyor System, conveying starch and supplemental water received from the Starch and Gluten Separation Area to the Alcohol Production Process Starch Precook Tank at a nominal design rate of 306,400 pounds per hour, Starch Production Process Starch Reactors at a nominal design rate of 60,000 pounds per hour, and/or Maltodextrin Production Process at a nominal design rate of 65,800 pounds per hour.

(iii) One (1) totally enclosed Starch and Gluten Separation System Gluten Discharge Conveyor System, consisting of two (2) totally enclosed conveyors, conveying gluten received from the Starch and Gluten Separation Area to the Gluten Dryers at a nominal design rate of 33,750 pounds per hour.

(6) One (1) Germ Production Process, installed in March 2000 and modified in 2008, consisting of:

(A) One (1) Germ Drying System, consisting of:
(i) One (1) 17 MMBtu/hr natural gas and/or biogas fired Germ Dryer (re-permitted in 2015), drying germ received from the Germ Separation System Germ Discharge Conveyor System at a nominal design rate of 36,000 pounds per hour, yielding a maximum of 18,000 pounds of germ per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC12 (Germ Dryer Scrubber); combustion NOx emissions are controlled by a steam injection system; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(ii) One (1) totally enclosed Germ Dryer Discharge Conveyor System, conveying germ received from the Germ Dryer to the Germ Transport System at a nominal design rate of 18,000 pounds per hour.

(B) One (1) totally enclosed Germ Transport System, conveying germ received from the Germ Dryer Discharge Conveyor System to the Germ Storage Bin at a nominal design rate of 18,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC10 (Germ Transport Baghouse), with all emissions exhausted through Stack FP10.

(C) One (1) Germ Storage Bin, with a nominal design storage capacity of 160 tons, storing germ received from the Germ Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC11 (Germ Storage Bin Vent), with all emissions exhausted through Stack FP11.

(7) One (1) Corn Gluten Feed (CGF) Production Process, installed in March 2000, consisting of:

(A) One (1) Corn Steep and Alcohol Stillage Evaporation System, consisting of:

(i) One (1) Supplemental Corn Gluten Feed Evaporation System, evaporating off excess water from the Steep System and Alcohol Distillation Still Bottom (a.k.a. stillage), yielding a maximum of 5,000 pounds of supplemental gluten feed (a.k.a. syrup) per hour, with VOC emissions controlled by one (1) condenser/scrubber system, identified as APC40 (MR Scrubber), installed in 2003, with all emissions exhausted through Stack AP40.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, conveying supplemental gluten feed syrup received from the Supplemental Corn Gluten Feed Evaporation System to the Corn Gluten Feed Dryer at a nominal design rate of 5,000 pounds per hour.

(B) One (1) Corn Storage Process Supplemental Corn Gluten Feed System, consisting of one (1) totally enclosed Corn Storage Process Supplemental Corn Gluten Feed Conveyor System, conveying supplemental corn gluten feed collected by the Corn Receiving Transfer Dust Collector, identified as FPC05, and the Grain Unloading Baghouse, identified as CPC01, to the Corn Gluten Feed Dryer at a nominal design rate of 550 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC20 (Corn Cleaning Transfer Baghouse), with all emissions exhausted through stack FP20.

(C) One (1) 93 MMBtu/hr natural gas fired Corn Gluten Feed (CGF) dryer (re-permitted in 2015), drying wet corn gluten feed received from the Fiber
Separation System Fiber Discharge Conveyor System, Supplemental Corn Gluten Feed Evaporation System Discharge Conveyor System, and Corn Storage Process Supplemental Corn Gluten Feed Conveyor System at a combined nominal design rate of 115,000 pounds per hour, yielding a maximum of 52,000 pounds of dried corn gluten feed per hour. Modified in 2008, with the addition of a flue gas recirculation system for NOx control.

Process and combustion particulate and SO2 emissions are controlled by scrubber FPC16 (Condensing Tower); and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(D) One (1) totally enclosed Corn Gluten Feed Transport System, conveying corn gluten feed received from the Corn Gluten Feed Dryer to the Corn Gluten Feed Storage Bin at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC18 (Fiber Cooling Baghouse), with all emissions exhausted through Stack FP18.

(E) One (1) Corn Gluten Feed Storage System, consisting of:

(i) One (1) Corn Gluten Feed Storage Bin, with a nominal design capacity of 110 tons, storing corn gluten feed received from the Corn Gluten Feed Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC22 (CGF Fiber Storage Bin Vent), with all emissions exhausted through Stack FP22.

(ii) One (1) totally enclosed Corn Gluten Feed Storage System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Storage Bin to the Corn Gluten Feed Final Milling Area at a nominal design rate of 52,000 pounds per hour.

(F) One (1) Corn Gluten Feed Final Mill System, consisting of:

(i) One (1) Corn Gluten Feed Final Milling Area, milling corn gluten feed received from the Corn Gluten Feed Storage System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC19 (Cage Mill Baghouse) (approved in 2011 for replacement), with all emissions exhausted through Stack FP19.

(ii) One (1) totally enclosed Corn Gluten Feed Final Mill System Discharge Conveyor System, conveying corn gluten feed received from the Corn Gluten Feed Final Milling Area to the Corn Gluten Feed Loadout System at a nominal design rate of 52,000 pounds per hour, and/or the Pellet Mill at a nominal design rate of 52,000 pounds per hour.

(8) One (1) Gluten Production Process, installed in March 2000, consisting of:

(A) Two (2) natural gas and/or biogas fired Gluten Dryers, one (1) 32 MMBtu/hr dryer installed in 2000 (Gluten #1 Dryer) and one (1) 23 MMBtu/hr dryer installed in 2008, modified in 2011, and re-permitted in 2015 (Gluten #2 Dryer), drying gluten received from the Starch and Gluten Separation System Gluten Discharge Conveyor System at a maximum rate of 33,750 pounds per hour, yielding a maximum of 15,000 pounds of dried gluten per hour.

Process and combustion particulate and SO2 emissions are controlled by caustic wet scrubber FPC13; combustion NOx emissions from Gluten Dryer No. 1 are
controlled by a steam injection system and combustion NOx emissions from Gluten Dryer No. 2 are controlled by a low-NOx burner and flue gas recirculation; and combustion CO emissions and process and combustion particulate and VOC emissions are controlled by thermal oxidizers FPC34a and FPC34b (in parallel). All emissions will be exhausted through Stack FP34.

(B) One (1) totally enclosed Gluten Transport System, conveying gluten received from the Gluten Dryers to the Gluten Storage Bin at a nominal design rate of 15,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC14 (Gluten Transport Baghouse), with all emissions exhausted through Stack FP14.

(C) One (1) Gluten Storage system, consisting of:

(i) One (1) Gluten Storage Bin, with a nominal design capacity of 200 tons, storing dried gluten received from the Gluten Transport System, with particulate emissions controlled by one (1) bin vent collector, identified as FPC15 (Gluten Storage Bin Vent), with all emissions exhausted through Stack FP15.

(ii) One (1) totally enclosed Gluten Storage System Discharge Conveyor System, conveying gluten received from the Gluten Storage Bin to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Transfer Conveyor System at a nominal design rate of 180,000 pounds per hour.

(9) Two (2) RTOs, identified as FPC34a and FPC34b, installed in 2008, each with a burner capacity of 30 MMBtu/hr, each with the capability of firing natural gas or biogas, controlling particulate, VOC and CO emissions from the Germ Dryer, CGF Dryer, Gluten #1 Dryer, and Gluten #2 Dryer, with all emissions exhausting through Stack FP34.

(10) One (1) Corn Gluten Feed Pellet Production Process, installed in March 2000, consisting of:

(A) One (1) Pellet Milling System, consisting of:

(i) One (1) Pellet Mill, producing corn gluten feed pellets from corn gluten feed received from the Corn Gluten Feed Final Mill System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour.

(ii) One (1) totally enclosed Pellet Milling System Discharge Conveyor System, conveying corn gluten feed pellets received from the Pellet Mill to the Pellet Cooler at a nominal design rate of 52,000 pounds per hour.

(B) One (1) Pellet Cooling System, consisting of:

(i) One (1) Pellet Cooler, cooling corn gluten pellets received from the Pellet Milling System Discharge Conveyor System at a nominal design rate of 52,000 pounds per hour, discharging to cyclone FPC24 (Pellet Cooler Cyclone), with all emissions exhausted through Stack FP18.

(ii) One (1) totally enclosed Pellet Cooling System Discharge Conveyor System, conveying pellets received from the Pellet Cooler to the Pellet Storage Bin at a nominal design rate of 52,000 pounds per hour.

(C) One (1) Pellet Storage Bin with a nominal design storage capacity of 240 tons, storing pellets received from the Pellet Cooling System Discharge Conveyor System, with particulate emissions controlled by one (1) bin vent collector,
identified as FPC25 (Pellet Storage Bin Vent), with all emissions exhausted through Stack FP25.

(11) One (1) Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System, conveying product received from the Storage Bins to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC28 (Germ/Gluten Transfer Baghouse), with all emissions exhausted through Stack FP28.

(B) One (1) totally enclosed Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System, loading germ, gluten, corn gluten feed and corn gluten feed pellet received from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System into trucks and/or railcars at a nominal design rate of 180,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as FPC26 (Truck Loadout Baghouse), with all emissions exhausted through Stack FP26.

(12) One (1) Alcohol Production Process, installed in March 2000, consisting of:

(A) One (1) totally enclosed Starch Cooker and Precooker Tank, the Starch Cooker heats liquefied starch received from the Precooker Tank at a nominal design rate of 306,400 pounds per hour, and converting the starch to fermentable sugars at a nominal design rate of 306,400 pounds per hour.

(B) One (1) Flash Cooling System, cooling fermentable sugars received from the Starch Cooker, steep water from the Steep System, and stillage from the Distillation Still Bases at a combined nominal design rate of 507,600 pounds per hour, yielding a maximum of 507,600 pounds of fermentable sugars per hour, with the fermentable sugars discharged to one (1) Secondary Liquefaction Tank, with all emissions routed through one (1) scrubber, identified as APC31 (Intercondenser Scrubber) for SO2 control, exhausted through Stack AP31.

(C) One (1) Alcohol Fermentation System, consisting of:

(i) Two (2) Pre-Fermenters, fermenting sugars received from the Flash Cooling System at a nominal design rate of 558,360 pounds per hour, yielding a maximum of 558,360 pounds of fermenter feed per hour, identified as APC28 (Pre-Fermenter Scrubber), that is used for product recovery, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(ii) One (1) Fermentation System, fermenting sugars received from the Flash Cooling System and Pre-Fermenters, yielding a maximum of 500,000 pounds of distillation feed per hour, with VOC and SO2 emissions controlled by one (1) wet scrubber, identified as APC29 (Fermentation Scrubber), and one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

The RTO APC30, installed in 2014, is fueled by natural gas, with a burner heat input capacity of 8 MMBtu/hr.
(D) One (1) Vacuum Degasification Column, constructed in 2015, receiving 500,000 pounds of distillation feed per hour from the Fermentation System to process prior to the Distillation System, with SO2 emissions controlled by one (1) wet scrubber, identified as APC34 (Vacuum Degasification Scrubber), and with VOC and Acetaldehyde emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(E) One (1) Alcohol Distillation System, modified in 2015, consisting of:

(i) One (1) Distillation System, processing distillation feed received from the Alcohol Fermentation System or the Vacuum Degasification Column at a nominal design rate of 500,000 pounds per hour, yielding a maximum of 63,000 pounds of crude alcohol per hour and 437,000 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed (stillage) Discharge Conveyor System, conveying supplemental corn gluten feed received from the Alcohol Distillation System to the Supplemental Corn Gluten Feed System Evaporation System at a nominal design rate of 437,000 pounds per hour.

(F) One (1) Alcohol Storage System, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the Alcohol Distillation System, consisting of:

(i) Beverage Alcohol Storage, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30, including the following tanks:

(a) Three (3) 190 proof day lot tanks (#1-3), identified as TK-106-001, TK-106-002, and TK-106-003.

(b) One (1) 190 proof reject tank, identified as TK-106-004.

(c) Three (3) 190 proof warehouse tanks (#1-3), identified as TK-106-005, TK-106-006, and TK-106-007.

(d) Two (2) 190 proof industrial warehouse tanks (#1-2), identified as TK-106-031 and TK-106-032.

(e) One (1) 200 proof reject tank, identified as TK-106-013.

(f) One (1) purification feed tank, identified as TK-106-016.

(g) Three (3) alcohol storage tanks, constructed in 2018

(1) Two (2) 41,800 gallon day lot tanks
(2) One (1) 100,000 gallon warehouse tank

(ii) Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:
(a) Three (3) 200 proof day lot tanks (TK-106-010, TK-106-011, and TK-106-012), each with a capacity of 41,800 gallons.

(b) Two (2) 200 proof warehouse tanks (TK-106-014 and TK-106-015), each with a capacity of 450,000 gallons.

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

(iii) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare). Under 40 CFR 60, Subpart Kb, this is considered an affected facility.

(G) Two (2) 51,700 gallon above ground vertical distillation heads storage tanks, identified as Tank AP83 (Heads Tank #2) (permitted in 2011) and Tank AP84 (Heads Tank), storing distillation products received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stacks AP83 and AP84, respectively.

(H) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94 (Burn Tank), storing miscellaneous non-beverage grade alcohol received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(I) One (1) Denaturant Storage Tank System, consisting of:

(i) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85 (Denaturant Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(ii) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86 (Denaturant Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iii) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87 (Denaturant Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(iv) One (1) 2,100 gallon above ground vertical storage tank, identified as Tank AP88 (Denaturant Tank #4), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP88.

(v) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP89 (Denaturant Mix Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP89.
(vi) One (1) 5,300 gallon above ground vertical storage tank, identified as Tank AP90 (Denaturant Mix Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP90.

(vii) One (1) 1,100 gallon above ground vertical storage tank, identified as Tank AP91 (Denaturant Mix Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP91.

(viii) One (1) 13,500 gallon above ground vertical storage tank, identified as Tank AP82 (Denaturant Tank #5), installed in 2011, with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP82.

(J) One (1) Alcohol and Distillation Products Loadout Area, consisting of:

(i) One (1) Alcohol Loadout System, loading beverage/industrial or anhydrous alcohol received from the Alcohol Storage System into trucks and/or railcars at a nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(ii) One (1) Distillation Products Loadout System, loading distillation products received from Tanks AP83, AP84 and AP94 into trucks and/or railcars at a combined nominal design rate of 7,082 gallons per hour, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare).

(iii) One (1) Denaturant Delivery System, delivering denaturant received from the Denaturant Storage Tank System to the Alcohol Loadout System when industrial grade alcohol is being produced, with all non-fugitive VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), with all non-fugitive emissions exhausted through Stack AP97.

The enclosed flare APC97, installed in 2011, is fueled by natural gas, with a pilot gas flare heat input capacity of 12 MMBtu/hr.

(13) One (1) Starch Production Process, installed in March 2000, consisting of:

(A) One (1) Starch Reactor System, consisting of:

(i) Eight (8) Starch Reactors, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour, yielding a maximum of 60,000 pounds of processed starch per hour, with all emissions exhausted through eight stacks collectively identified as SP46.

(ii) One (1) Starch Reactor Dry Soda Ash Feed System, consisting of:

(a) One (1) Soda Ash Storage Bin with a nominal design capacity of 75 tons, storing soda ash that is fed to the Starch Reactors, with the dry soda ash feed particulate emissions controlled by one (1) bin vent collector, identified as SPC64 (Soda Ash Bin Vent), with all emissions exhausted through Stack SP64.
(b) One (1) totally enclosed Soda Ash Discharge Conveyor System, delivering soda ash received from the Soda Ash Storage Bin to the Starch Reactors.

(c) One (1) totally enclosed Starch Reactor System Starch Discharge Conveyor System, conveying processed starch received from the Starch Reactors to the Starch Filtration System at a nominal design rate of 60,000 pounds per hour.

(B) One (1) Starch Filtration System, consisting of:

(i) Two (2) Starch Filters, refining processed starch received from the Starch Reactor System Starch Discharge Conveyor System at a nominal design rate of 60,000 pounds per hour.

(ii) One (1) totally enclosed Starch Filtration System Discharge Conveyor System, conveying refined starch received from the Starch Filters to the Starch Dryer at a nominal design rate of 56,000 pounds per hour.

(C) One (1) Starch Drying System consisting of:

(i) One (1) 31 MMBtu/hr natural gas Starch Dryer, drying refined starch received from the Starch Filtration System Discharge Conveyor System at a nominal design rate of 56,000 pounds per hour, with the process and combustion particulate emissions controlled by one (1) wet scrubber, identified as SPC49 (Starch Dryer Scrubber), with all emissions exhausted through Stack SP49.

(ii) One (1) totally enclosed Starch Drying System Discharge Conveyor System, conveying dried starch received from the Starch Dryer to the Starch Storage System at a nominal design rate of 30,000 pounds per hour.

(D) One (1) Starch Storage System, consisting of four (4) Starch Storage Bins, with a nominal design capacity of 1,000,000 pounds, storing dried starch received from the Starch Drying System Discharge Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as SPC50 (Starch Product Blending Bin Vents), with all emissions exhausted through four stacks collectively identified as SP50.

(E) One (1) totally enclosed Starch Loadout System, conveying starch received from the Starch Storage System into trucks and/or railcars at a nominal design rate of 80,000 pounds per hour, with non-fugitive particulate emissions controlled by one (1) baghouse, identified as SPC44a (Starch Loadout Receiver Baghouse), and fugitive particulate emissions controlled by one (1) dust collector identified as SPC44b (Starch Loadout Dust Collector), with all non-fugitive emissions exhausted through Stack SP44a, and all collected fugitive particulate emissions exhausted through Stack SP44b.

(14) One (1) Maltodextrin Production Process, installed in March 2000 and modified in 2015, consisting of:

(A) One (1) Maltodextrin Cooking System, consisting of:

(i) One (1) Maltodextrin Cooker, processing starch received from the Starch and Gluten Separation System Starch Discharge Conveyor System at a nominal design rate of 65,770 pounds per hour and 38,660 pounds of water per hour, yielding 104,430 pounds of crude Maltodextrin per hour.
(ii) One totally enclosed Maltodextrin Cooking System Discharge Conveyor System, conveying crude Maltodextrin received from the Maltodextrin Cooker to the Maltodextrin Filtration System at a nominal design rate of 104,430 pounds per hour.

(B) One (1) Maltodextrin Filtration System, consisting of:

(i) One (1) Maltodextrin Filter, refining crude Maltodextrin received from the Maltodextrin Cooking System Discharge Conveyor System at a nominal design rate of 51,690 pounds per hour.

(ii) One (1) Filtration System Dry Carbon Feed System, consisting of:

(a) One (1) Dry Carbon Storage Bin with a nominal design capacity of 100,000 pounds, storing carbon that is fed to the Maltodextrin Filtration System at a nominal design rate of 50,000 pounds per hour, with the dry carbon feed particulate emissions controlled by one (1) bin vent collector, identified as MPC61 (Carbon Bin Vent), with all emissions exhausted through Stack MP61.

(b) One (1) totally enclosed Carbon Discharge Conveyor System, delivering carbon received from the Carbon Storage Bin to the Filtration System.

(iii) One (1) Filtration Aid System, consisting of:

(a) Two (2) Filter Aid Storage Bins with a total nominal design capacity of 100,000 pounds, storing filter aid that is fed to the Maltodextrin Filtration System, with particulate emissions controlled by two (2) bin vent collectors, identified as MPC60 (Filter Aid Bin Vent), with emissions exhausted through Stack MP60. Filter aid is only unloaded into one (1) filter aid bin at a time.

(b) One (1) totally enclosed Filter Aid Discharge Conveyor System, delivering filter aid received from the Filter Aid Storage Bins to the Maltodextrin Filtration System.

(iv) One (1) totally enclosed Maltodextrin Filtration System Discharge Conveyor System, conveying refined Maltodextrin from the Maltodextrin Filter to the Maltodextrin Dryer at a nominal design rate of 51,690 pounds per hour.

(C) One (1) Maltodextrin Drying System, re-permitted in 2015 and approved for modification in 2020 to replace the burner, consisting of one (1) 53.5 MMBtu/hr natural gas fired Maltodextrin Dryer, drying Maltodextrin received from the Maltodextrin Filtration System Discharge Conveyor System a nominal design rate of 51,690 pounds per hour, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC39 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC40 (Maltodextrin Dryer WESP), with all emissions exhausted through Stack MP40.

(D) One (1) totally enclosed Maltodextrin Transfer Conveyor System, conveying dried Maltodextrin received from the Maltodextrin Dryer to the Maltodextrin Storage System at a nominal design rate of 28,000 pounds per hour, with particulate emissions controlled by one (1) baghouse, identified as MPC42
(Maltodextrin Transfer Baghouse), with all emissions exhausted through Stack MP42.

(E) One (1) Maltodextrin Storage System, consisting of four (4) Maltodextrin Storage Bins with a combined nominal design capacity of 1,000,000 pounds, storing Maltodextrin received from the Maltodextrin Transfer Conveyor System, with particulate emissions controlled by four (4) identical bin vent collectors, identified as MPC44 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP44.

(F) One (1) totally enclosed Maltodextrin Loadout System, including one (1) Maltodextrin Screening Process and one (1) Maltodextrin Loadout Process, conveying Maltodextrin received from the Maltodextrin Storage Bins to the Maltodextrin Packaging System at a nominal design rate of 90,000 pounds per hour, with particulate emissions controlled by one (1) dust collector, identified as MPC41 (Maltodextrin Packaging Dust Collector), with all emissions exhausted through Stack MP41.

(b) One (1) Anaerobic Wastewater Treatment Process, installed in March 2000, with H2S emissions controlled by a caustic wet scrubber, installed in 2008, identified as UPC55 (Biogas Scrubber).

Upon exiting scrubber UPC55, the biogas can be:

1. Combusted in one (1) 18 MMBtu/hr biogas flare, identified as UPC54 (Biogas Flare), with all emissions exhausted through Stack UP54.
2. Used as fuel in the Germ Dryer.
3. Used as fuel in the Gluten Dryers.
4. Used as fuel in thermal oxidizers FPC34a and FPC34b.

Supporting the Wastewater Treatment Process is a Wastewater Treatment Lime Feed System, consisting of:

5. One (1) Lime Storage Bin, constructed in 2008, with a capacity of 30,000 pounds of lime per hour with particulate emissions controlled by one (1) bin vent filter, identified as UPC52 (Lime Bin Vent), with emissions exhausted through stack UP52.

(c) Two (2) natural gas fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities.
Under 40 CFR 63, Subpart DDDDDD, these are considered existing affected sources.

(d) One (1) Process Water Cooling Tower, installed in March 2000, cooling hot process water received from the source processes at a nominal design rate of 18,000,000 pounds per hour, with particulate mist controlled by one (1) mist elimination system, identified as APC38.

(e) One (1) maltodextrin process line, transferred pneumatically and constructed in 2018

1. One (1) Maltodextrin spray dryer, identified as MP80, constructed in 2018, with a maximum capacity of 60,000 pounds per hour of refined maltodextrin, with the process and combustion particulate and VOC emissions controlled by one (1) wet scrubber, identified as MPC79 (Maltodextrin Dryer Scrubber) and with particulate emissions also controlled by one (1) wet electrostatic precipitator, identified as MPC80 (Maltodextrin...
Dryer WESP), using a natural gas-fired burner with heat input capacity of 57.6 MMBtu/hr, with all emissions exhausted through Stack MP80.

(2) One (1) Maltodextrin transfer PC Receiver, identified as MP82, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC82, with all emissions exhausted through Stack MP82.

(3) One (1) Maltodextrin bin tower product receiver, identified as MP85, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC85, with all emissions exhausted through Stack MP85.

(4) Four (4) Maltodextrin storage bins, identified as MP84, constructed in 2018, with a maximum capacity of 32,500 pounds per hour of dried maltodextrin, with particulate emissions controlled by bin vent collectors, identified as MPC84 (Maltodextrin Product Bins Bin Vent), with all emissions exhausted through four stacks collectively identified as MP84.

(5) One (1) Maltodextrin loading and screening process, identified as MP81, constructed in 2018, with a maximum capacity of 90,000 pounds per hour of dried maltodextrin, with particulate emissions controlled by baghouse, identified as MPC81, with all emissions exhausted through Stack MP81.

(f) Seven (7) maltodextrin tanks, process tanks including feed tanks, reactor and wasted tanks and two (2) vacuum receivers, constructed in 2018.

(g) Five (5) natural gas-fired heaters, constructed in 2018.

(1) One (1) with a maximum capacity of 0.25 MMBtu per hour in building 307
(2) Two (2) with a maximum capacity of 1.5 MMBtu per hour in building 305
(3) One (1) with a maximum capacity of 1.25 MMBtu per hour in building 305
(4) One (1) with a maximum capacity of 0.20 MMBtu per hour in building 305

<table>
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<th>Emission Units and Pollution Control Equipment Removed From the Source</th>
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The source has removed the following emission units:

**Prior to the 2017 Modification:**

(a) One (1) Alcohol Fermentation System, consisting of:

(i) Two (2) Pre-Fermenters, fermenting sugars received from the Flash Cooling System at a nominal design rate of 558,360 pounds per hour, yielding a maximum of 558,360 pounds of fermenter feed per hour, with a wet scrubber, identified as APC28 (Pre-Fermenter Scrubber), that may be used for product recovery, with VOC emissions controlled by one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

(ii) One (1) Fermentation System, fermenting sugars received from the Flash Cooling System and Pre-Fermenters, yielding a maximum of 500,000 pounds of distillation feed per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC29 (Fermentation Scrubber), and one (1) RTO, identified as APC30 (Fermentation System RTO), with all emissions exhausted through Stack AP30.

The RTO APC30, approved in 2014 for installation, is fueled by natural gas, with a burner heat input capacity of 8 MMBtu/hr.
(b) One (1) Alcohol Distillation System, approved in 2015 for modification, consisting of:

(i) One (1) Distillation System, processing distillation feed received from the Alcohol Fermentation System or the Vacuum Degasification Column at a nominal design rate of 500,000 pounds per hour, yielding a maximum of 63,000 pounds of crude alcohol per hour and 437,000 pounds of excess corn gluten feed (stillage) per hour, with VOC emissions controlled by one (1) wet scrubber, identified as APC32 (Distillation Scrubber), with all emissions exhausted through Stack AP32.

(ii) One (1) totally enclosed Supplemental Corn Gluten Feed (stillage) Discharge Conveyor System, conveying supplemental corn gluten feed received from the Alcohol Distillation System to the Supplemental Corn Gluten Feed System Evaporation System at a nominal design rate of 437,000 pounds per hour.

(c) One (1) Alcohol Storage System, with a maximum combined design capacity of 3,000,000 gallons of finished alcohol product, storing beverage/industrial and anhydrous grade alcohol received from the Alcohol Distillation System, consisting of:

(i) Beverage Alcohol Storage, with VOC emissions controlled by one (1) wet scrubber, identified as APC95 (Beverage Scrubber), with all emissions exhausted through Stack AP95, including the following tanks:

(A) Three (3) 190 proof day lot tanks (#1-3), identified as TK-106-001, TK-106-002, and TK-106-003.

(B) One (1) 190 proof reject tank, identified as TK-106-004.

(C) Three (3) 190 proof warehouse tanks (#1-3), identified as TK-106-005, TK-106-006, and TK-106-007.

(D) Two (2) 190 proof industrial warehouse tanks (#1-2), identified as TK-106-031 and TK-106-032.

(E) One (1) 200 proof reject tank, identified as TK-106-013.

(F) One (1) purification feed tank, identified as TK-106-016.

(ii) Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:

(a) Three (3) 200 proof day lot tanks (#1-3), identified as TK-106-010, TK-106-011, and TK-106-012, each with a capacity of 41,800 gallons.

(b) Two (2) 200 proof warehouse tanks (#1-2), identified as TK-106-014 and TK-106-015, each with a capacity of 450,000 gallons.

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

(iii) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare). Under 40 CFR 60, Subpart Kb, this is considered an affected facility.

Other units that have been removed:

(b) One (1) Feed Loadout Vacuum System, installed in 2008, for cleanup of the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Systems, with particulate emissions
controlled by one (1) baghouse, identified as FPC33 (Feed Loadout Vacuum), with emissions exhausted through Stack FP33.

(c) One (1) Maltodextrin Central Vacuum System, identified as MPC43 (Maltodextrin Vacuum), controlling fugitive particulate emissions generated by the Maltodextrin Production Process, with all emissions exhausted through Stack MP43.

(d) One (1) Maltodextrin central vacuum system, identified as MP83, approved in 2018 for construction, with a maximum air flow rate of 500 acfm, with particulate emissions controlled by baghouse, identified as MPC83, with all emissions exhausted through Stack MP83.

### Insignificant Activities

The source also consists of the following insignificant activities:

(a) One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an existing affected source.

(b) One (1) diesel fired, compression ignition lighting tower emergency generator, installed in 2006, with a maximum power output rating of 8 KW. *Note: This is a nonroad engine.*

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

(d) One (1) spent carbon storage pile, identified as SP-1, installed in 2011, stored in a three-sided quonset hut structure, with a maximum storage capacity of 25 tons, and with a maximum throughput of 4,050 tons per year.

(e) One (1) corn feed storage pile, identified as SP-2, installed in 2011, stored in a four-sided enclosure, with a maximum storage capacity of 1,300 tons, and with a maximum throughput of 875,000 tons per year.

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

1. Four (4) space heaters.
2. One (1) natural gas-fired boiler, identified as Natural Gas Boiler, installed in 1999, with a maximum heat input capacity of 2.1 MMBtu/hr. Under 40 CFR 63, Subpart DDDDD, this is considered an existing affected source.
3. Two (2) forced-air heaters in the Maltodextrin Wet Line enclosure, each with a maximum heat input capacity of 2.66 MMBtu/hr.

(g) Degreasing operations using spray can degreaser.

(h) Activities with emissions equal to or less than the following thresholds: 5 lb/hr or 25 lb/day PM; 5 lb/hr or 25 lb/day SO2; 5 lb/hr or 25 lb/day NOx; 3 lb/hr or 15 lb/day VOC; 0.6 tons per year Pb; 1.0 ton/yr of a single HAP, or 2.5 ton/yr of any combination of HAPs:

1. One (1) parts washer with a design capacity of 23 gallons;
2. Two (2) HCl storage tanks.
3. Five (5) process tanks for maltodextrin facility that vent to a common header.
4. Three (3) process tanks for maltodextrin facility.
(i) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons. This operation consists of two (2) 500 gallon ASTs for gasoline, with a maximum gasoline throughput of less than 10,000 gallons per month.

(j) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour (196 hp), except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(k) The following VOC and HAP storage containers: Vessels storing lubricating oils, hydraulic oils, and machining fluids.

(l) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(m) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility.

(n) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(o) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(p) Heat exchanger cleaning and repair.

(q) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(r) Process vessel degassing and cleaning to prepare for internal repairs.

(s) Purge double block and bleed valves.

(t) Purging of gas lines and vessels that are related to 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.

(u) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

(v) A laboratory as defined in 326 IAC 2-7-1(21)(G).

(w) Farm operations.

(x) One (1) sodium bisulfite solution storage tank, installed in 2013, with a maximum throughput rate of 823,500 gallons per year, with emissions venting to the atmosphere.

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**Enforcement Issue**

IDEM is aware there is an Agreed Order 2018-25104-A with Grain Processing Corporation to address issues of non-compliance with PM10 emissions. This permit includes the addition of a proposed Wet Electro Static Precipitator (WESP FPC32) and scrubber replacement of FPC17 with new scrubber FPC16. These changes are intended to address these issues, as part of this Agreed Order.
Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

County Attainment Status

The source is located in Daviess County (Washington Township).

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Nonattainment effective October 4, 2013, for the 2010 SO₂ standard for Veale Township. Better than national standards for the remainder of the county.</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 January 16, 2018, for the 2015 8-hour ozone standard.</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>PM₂.₅</td>
<td>Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour 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>

(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. Daviess 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
Daviess 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
Daviess 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

The source includes corn wet milling operations, corn product production operations (germ, gluten feed, gluten, gluten feed pellets, starch, and maltodextrin), an alcohol production process, wastewater treatment, a process water cooling tower, and boilers with a total heat input rating of greater than 250 million British thermal units per hour (MMBtu/hr).

(1) EPA published a final rule in the Federal Register on May 1, 2007, that excluded ethanol production facilities that produce ethanol through natural fermentation, from the major source category "Chemical Process Plants". Therefore, their fugitive emissions are no longer counted toward determination of Part 70, PSD, and Emission Offset applicability.

(2) The fugitive emissions from equipment leaks are not counted toward Part 70, PSD, and Emission Offset applicability, because the applicable NSPS, Subparts VV and VVa were in effect after August 7, 1980.
(3) The grain elevator does not meet the definition of a grain terminal elevator or grain storage elevator; therefore NSPS, Subpart DD is not applicable and fugitive emissions are not counted toward Part 70, PSD, and Emission Offset applicability.

(4) The boilers with a total heat input rating of greater than 250 MMBtu/hr are considered one of the 28 listed source categories, based on the EPA guidance for "nesting activities". Therefore, any fugitive emissions from these boilers are counted toward Part 70, PSD, and Emission Offset applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

**Greenhouse Gas (GHG) Emissions**

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) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as ‘Major’ based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

**Unrestricted Potential Emissions**

This table reflects the unrestricted potential emissions of the source.

<table>
<thead>
<tr>
<th>Total PTE of Entire Source Including Fugitives*</th>
<th>PM$^1$</th>
<th>PM$^{10}$</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>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>10</td>
<td>25</td>
<td></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>25</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</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

*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM10, PM2.5, SO2, NOx, VOC, and CO is equal to or greater than one hundred (100) 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.
(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/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. The source 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.

Description of Proposed Modification to an Existing Source

As part of this permitting action, the source requested to make the following changes:

- Replacement of the scrubber (FPC17) controlling emissions from the CGF Gas Fired Rotary Dryer with a new scrubber (FPC16).
- Add a new wet electrostatic precipitator (WESP FPC32) that will provide additional particulate control to the CGF Gas Fired Rotary Dryer, Germ Fluid Bed Dryer, and Gluten Meal Flash Dryer #1 and #2.
- Installation of four (4) natural gas-fired building heaters.
- Installation of one (1) 190 proof warehouse tank.

The following is a list of the new and modified emission units and pollution control device(s):

(a) Two (2) natural gas-fired heaters, permitted in 2020, with a maximum capacity of 0.20 MMBtu per hour.

(b) Four (4) natural gas, direct-fired heaters, permitted in 2020, each with a maximum heat input capacity of 3.522 MMBtu per hour, and exhausting indoors.

(c) One (1) 190 proof warehouse tank, identified as TK-106-008, approved in 2020 for construction, with a maximum storage capacity of 450,000 gallons, using RTO APC30 as VOC control, and exhausting to stack AP30.

Permit Level Determination – Part 70 Modification to an Existing Source

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>Process / Emission Unit</th>
<th>PM</th>
<th>PM₁₀</th>
<th>PM₂.₅¹</th>
<th>SO₂</th>
<th>NOₓ</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP²</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Heaters</td>
<td>0.12</td>
<td>0.47</td>
<td>0.47</td>
<td>0.04</td>
<td>6.05</td>
<td>0.33</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
</tbody>
</table>
### 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$_{2.5}^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank, TK-106-108</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.42</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total PTE Before Controls of the New Emission Units:</strong></td>
<td>0.12</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>3.75</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

$^2$Single highest HAP = Hexane

Appendix A of this TSD reflects the detailed potential emissions of the modification.

### PTE Increase of the Modified* Emission Unit(s)/Process(es) (ton/year)

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTE Before Modification (Germ Dryer, CGF Dryer, Gluten #1 and #2 Dryers)</td>
<td>1993.08</td>
<td>1993.08</td>
<td>1993.08</td>
<td>824.02</td>
<td>155.10</td>
<td>662.10</td>
<td>81.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTE After Modification (Germ Dryer, CGF Dryer, Gluten #1 and #2 Dryers)</td>
<td>1993.08</td>
<td>1993.08</td>
<td>1993.08</td>
<td>824.02</td>
<td>155.10</td>
<td>662.10</td>
<td>81.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total PTE Increase of the Modified Emission Unit(s)/Process</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

$^2$Single highest HAP.

*Note: These emissions units are not being modified. This table is used to show there are no expected increases to potential emissions due to the addition of the WESP control and replacement of the scrubber control device.

Appendix A of this TSD reflects the detailed potential emissions of the modification.

### PTE Increases Due to the Modification (ton/year)

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PTE Before Controls of the New Emission Units</td>
<td>0.11</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>3.75</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td>Total PTE Increase of the Modified Emission Unit(s)/Process</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total PTE of the Modification</td>
<td>0.11</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>3.75</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

$^2$Single highest HAP = Hexane

Pursuant to 326 IAC 2-7-11(a)(8)(A), this change to the permit is considered an administrative amendment because the permit is amended to incorporate exempt units as described in 326 IAC 2-1.1-3 that does not otherwise constitute a modification for purposes of 326 IAC 2-7-10.5 (Source Modifications) or 326 IAC 2-7-12 (Permit Modifications).
These units have the potential to emit at levels less than those listed in 326 IAC 2-1.1-3(e)(1). Additionally, the addition of new WESP control and the replacement of scrubber FPC17 with scrubber FPC16 will not increase the potential to emit from the source.

### Permit Level Determination – PSD Emissions Increase

<table>
<thead>
<tr>
<th>PTE Increases Due to the Modification (ton/year)</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$$^1$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total PTE Before Controls of the New Emission Units</strong></td>
<td>0.11</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>3.75</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td><strong>Total PTE Increase of the Modified Emission Unit(s)/Process</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total PTE of the Modification</strong></td>
<td>0.12</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.04</td>
<td>3.75</td>
<td>5.08</td>
<td>0.11</td>
<td>0.11</td>
</tr>
<tr>
<td><strong>Significant Levels</strong></td>
<td>25</td>
<td>15</td>
<td>10</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

$^2$Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the modification.

The Permittee has stated that the replacement scrubber (FPC16), the new wet electrostatic precipitator (WESP FPC32), installation of four (4) natural gas-fired building heaters, and installation of one (1) 190 proof warehouse tank, will not impact upstream or downstream operations, or debottleneck any existing units.

(a) This modification to an existing major PSD stationary source is not major because the emissions increase of each PSD regulated pollutant is less than the PSD significant level (i.e., the modification does not cause a Significant Emissions Increase). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

### Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

<table>
<thead>
<tr>
<th>Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)</th>
<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>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total PTE of Entire Source Including Fugitives</strong>*</td>
<td>&gt;250</td>
<td>&gt;250</td>
<td>&gt;250</td>
<td>&lt;250</td>
<td>&gt;250</td>
<td>&gt;250</td>
<td>&gt;250</td>
<td>&gt;250</td>
<td>&gt;25</td>
</tr>
<tr>
<td><strong>Title V Major Source Thresholds</strong></td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM¹</td>
<td>PM₁₀¹</td>
<td>PM₂.₅¹.²</td>
<td>SO₂</td>
<td>NOₓ</td>
<td>VOC</td>
<td>CO</td>
<td>Single HAP³</td>
<td>Total HAPs</td>
</tr>
<tr>
<td>PSD Major Source</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>Thresholds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM₂.₅, not particulate matter (PM), are each considered as a "regulated air pollutant."
²PM₂.₅ listed is direct PM₂.₅.
³Single highest source-wide HAP.
*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD regulated pollutant, PM, PM₁₀, PM₂.₅, NOₓ, VOC, and CO, is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This source is a major source of HAP, 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

Federal rule applicability for this source has been reviewed as follows:

**New Source Performance Standards (NSPS):**

(a) The requirements of the New Source Performance Standard for Fossil-Fuel-Fired Steam Generators, 40 CFR 60, Subpart D and 326 IAC 12, are not included in the permit for Boiler 1 or Boiler 2. These units meet the applicability of 40 CFR 60, Subpart D because they are fossil-fuel-fired steam generating units of more than 250 MMBtu/hr and commenced construction after August 17, 1971. However, pursuant to 40 CFR 60.40b(j), any affected facility meeting the applicability requirements of 40 CFR 60, Subpart Db and commencing construction, modification, or reconstruction after June 19, 1986, is not subject to 40 CFR 60, Subpart D. The boilers are subject to 40 CFR 60, Subpart Db; therefore, 40 CFR 60, Subpart D is not applicable to Boilers 1 or 2.

(b) The requirements of the New Source Performance Standard for Fossil-Fuel-Fired Steam Generators, 40 CFR 60, Subpart D and 326 IAC 12, are not included in the permit for the small natural gas boiler because this unit has a heat input capacity of less than 250 MMBtu/hr.

(c) The requirements of the New Source Performance Standard for Electric Utility Steam Generating Units, 40 CFR 60, Subpart Da and 326 IAC 12, are not included in the permit for Boiler 1, Boiler 2, or the small natural gas fired boiler, because these units do not meet the definition of electric utility steam generating units pursuant to 40 CFR 60.41Da.

(d) Boiler 1 and Boiler 2 are subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and 326 IAC 12, because these units are steam generating units, were constructed after June 19, 1984, and each has a heat input capacity of greater than 100 MMBtu/hr. The units subject to this rule includes the following:

Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each
equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

These units are subject to the following portions of Subpart Db.

(1)  40 CFR 60.40b(a), (g), (i)
(2)  40 CFR 60.41b
(3)  40 CFR 60.44b(h), (i), (l)
(4)  40 CFR 60.46b(a), (c), (e)(1), (e)(3)
(5)  40 CFR 60.48b(b), (c), (d), (e)(2), (e)(3), (f)
(6)  40 CFR 60.49b(a), (b), (d)(1), (g), (h)(2), (i), (o), (v), (w)

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to Boiler 1 and Boiler 2 except as otherwise specified in 40 CFR 60, Subpart Db.

(e)  The requirements of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and 326 IAC 12, are not included in the permit for the small natural gas-fired boiler, because this unit has a heat input capacity of less than 100 MMBtu/hr.

(f)  The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and 326 IAC 12, are not included in the permit for Boiler 1 and Boiler 2, because these units have heat input capacities of greater than 100 MMBtu/hr.

(g)  The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and 326 IAC 12, are not included in the permit for the small natural gas-fired boiler, because this unit has a heat input capacity of less than 10 MMBtu/hr.

(h)  The requirements of the New Source Performance Standard 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 and 326 IAC 12, are not included in the permit for any of the petroleum storage tanks at this source, because all of the petroleum storage tanks were constructed after May 19, 1978.

(i)  The requirements of the New Source Performance Standard 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 and 326 IAC 12, are not included in the permit for any of the petroleum storage tanks at this source, because all of the petroleum storage tanks were constructed after July 23, 1984.

(j)  This source is subject to the New Source Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subpart Kb and 326 IAC 12, because the tanks in the alcohol storage system that are not storing beverage alcohol have capacities greater than 75 cubic meters, store volatile organic liquid, and were constructed after July 23, 1984. The units subject to this rule includes the following:

(a)  Fuel Alcohol Storage, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare), including the following tanks:

(1)  Three (3) 200 proof day lot tanks (#1-3), identified as TK-106-010, TK-106-011, and TK-106-012, each with a capacity of 41,800 gallons.

(2)  Two (2) 200 proof warehouse tanks (#1-2), identified as TK-106-014 and TK-106-015, each with a capacity of 450,000 gallons.
Under 40 CFR 60, Subpart Kb, these are considered affected facilities.

(b) One (1) Demeth Feed Tank, identified as TK-106-017, with a capacity of 80,000 gallons, used to store 160-170 proof ethanol with impurities, with VOC emissions controlled by one (1) enclosed flare, identified as APC97 (Alcohol Loadout Flare). Under 40 CFR 60, Subpart Kb, this is considered an affected facility.

(c) One (1) 41,800 gallon above ground vertical burn tank, identified as Tank AP94 (Burn Tank), storing miscellaneous non-beverage grade alcohol received from the Alcohol Distillation System, with VOC emissions controlled by an internal floating roof, with all emissions exhausted through Stack AP94. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(d) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP85 (Denaturant Tank #1), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP85. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(e) One (1) 41,800 gallon above ground vertical storage tank, identified as Tank AP86 (Denaturant Tank #2), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP86. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

(f) One (1) 21,200 gallon above ground vertical storage tank, identified as Tank AP87 (Denaturant Tank #3), with VOC emissions controlled by one (1) internal floating roof, with all emissions exhausted through Stack AP87. Under 40 CFR Part 60, Subpart Kb, this is considered an affected facility.

Tanks AP85, AP86, AP87 and AP94 are subject to the following portions of Subpart Kb.

(1) 40 CFR 60.110b(a), (b), (d)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(1)
(4) 40 CFR 60.113b(a)
(5) 40 CFR 60.114b
(6) 40 CFR 60.115b(a)
(7) 40 CFR 60.116b(a), (b), (c), (e)
(8) 40 CFR 60.117b

Tanks TK-106-010, TK-106-011, TK-106-012, TK-106-014, TK-106-015, TK-106-017 are subject to the following portions of Subpart Kb.

(1) 40 CFR 60.110b(a), (b), (d)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(3)
(4) 40 CFR 60.113b(d)
(5) 40 CFR 60.114b
(6) 40 CFR 60.115b(d)
(7) 40 CFR 60.116b(a), (b), (e), (g)
(8) 40 CFR 60.117b
The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the tanks listed above except as otherwise specified in 40 CFR 60, Subpart Kb.

(k) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subpart Kb and 326 IAC 12, are not included in the permit for the heads tanks (AP83 and AP84) and the beverage alcohol storage tanks used within the alcohol storage system, because pursuant to 40 CFR 60.110b(d)(7), Subpart Kb does not apply to vessels used to store beverage alcohol.

(l) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subpart Kb and 326 IAC 12, are not included in the permit for AP88, AP89, AP90, AP91, AP82, maltodextrin tanks and process tanks, because these units have a storage capacity of less than 75 cubic meters (19,813 gallons).

(m) The requirements of the New Source Performance Standard for Grain Elevators, 40 CFR 60, Subpart DD and 326 IAC 12, are not included in the permit for this source, because the source does not have a grain terminal elevator or a grain storage elevator pursuant to the definitions in 40 CFR 60.301. Grain terminal elevators are grain elevators with a permanent storage capacity of more than 2.5 million bushels, except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots. Grain storage elevators are grain elevators located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 1 million bushels. The source has a permanent storage capacity for 53,200,000 pounds of corn, which is approximately 950,000 bushels. Therefore, the source is not subject to the requirements of 40 CFR 60, Subpart DD.

(n) This source is subject to the New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006, 40 CFR 60, Subpart VV and 326 IAC 12, because this source produces ethanol, a chemical listed in 40 CFR 60.489 (List of chemicals produced by affected facilities); therefore, pursuant to 40 CFR 60.481, the source meets the definition of a synthetic organic chemicals manufacturing industry. The facility subject to this rule includes the following:

All equipment (including each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by Subpart VV) within a process unit that commenced construction, reconstruction, or modification after January 5, 1981 and on or before November 7, 2006. A process unit means components assembled to produce ethanol, as intermediate or final products.

The affected facilities are subject to the following portions of Subpart VV:

1. 40 CFR 60.480
2. 40 CFR 60.481
3. 40 CFR 60.482-1
4. 40 CFR 60.482-2
5. 40 CFR 60.482-3
6. 40 CFR 60.482-4
7. 40 CFR 60.482-5
8. 40 CFR 60.482-6
9. 40 CFR 60.482-7
10. 40 CFR 60.482-8
11. 40 CFR 60.482-9
12. 40 CFR 60.482-10
13. 40 CFR 60.483-1
The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the affected facilities except as otherwise specified in 40 CFR 60, Subpart VV.

(o) This source is subject to the New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006, 40 CFR 60, Subpart VVa and 326 IAC 12, because this source produces ethanol, a chemical listed in 40 CFR 60.489 (List of chemicals produced by affected facilities); therefore, pursuant to 40 CFR 60.481, the source meets the definition of a synthetic organic chemicals manufacturing industry. The facility subject to this rule includes the following:

All equipment (including each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by Subpart VV) within a process unit that commenced construction, reconstruction, or modification after November 7, 2006. A process unit means components assembled to produce ethanol, as intermediate or final products.

The affected facilities are subject to the following portions of Subpart VVa.

(1) 40 CFR 60.480a
(2) 40 CFR 60.481a
(3) 40 CFR 60.482-1a
(4) 40 CFR 60.482-2a
(5) 40 CFR 60.482-3a
(6) 40 CFR 60.482-4a
(7) 40 CFR 60.482-5a
(8) 40 CFR 60.482-6a
(9) 40 CFR 60.482-7a
(10) 40 CFR 60.482-8a
(11) 40 CFR 60.482-9a
(12) 40 CFR 60.482-10a
(13) 40 CFR 60.482-11a
(14) 40 CFR 60.483-1a
(15) 40 CFR 60.483-2a
(16) 40 CFR 60.484a
(17) 40 CFR 60.485a
(18) 40 CFR 60.486a
(19) 40 CFR 60.487a
(20) 40 CFR 60.488a
(21) 40 CFR 60.489a

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the affected facilities except as otherwise specified in 40 CFR 60, Subpart VV.

(p) The requirements of the New Source Performance Standard for Bulk Gasoline Terminals, 40 CFR 60, Subpart XX and 326 IAC 12, are not included in the permit for this source, because the plant does not meet the definition of a bulk gasoline terminal pursuant to 40 CFR 60.501 because it does not receive gasoline by pipeline, ship, or barge.
The requirements of the New Source Performance Standard for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, 40 CFR 60, Subpart RRR and 326 IAC 12, are not included in the permit. Ethanol is one of the chemicals listed in 40 CFR 60.707; however, according to the EPA memorandum from Mr. George T. Czerniak, dated December 6, 2002, the manufacture of ethanol using a fermentation process (biological synthesis) was excluded from the scope of 40 CFR 60, Subpart RRR.

There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63, Subpart F are not included in the permit for this source, since ethanol is not one of the listed chemicals to which this subpart applies.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63, Subpart G, are not included in the permit for this source, since the source is not subject to 40 CFR 63, Subpart F, as described above.

(c) This source is subject to the National Emission Standards for Organic Hazardous Air Pollutants (NESHAPs) for Equipment Leaks, 40 CFR 63, Subpart H is referenced in 40 CFR 63, Subpart FFFF, which is applicable to the source as described under that rule applicability discussion. The provisions of 40 CFR 63, Subpart H are included as Attachment G to the permit.

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks, 40 CFR 63, Subpart I are not included in the permit for this source, since this source does not meet the definition of a bulk gasoline terminal pursuant to 40 CFR 63.421 because it does not receive gasoline by pipeline, ship, or barge.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial Process Cooling Towers, 40 CFR 63, Subpart Q, are not included in the permit for this source, since the source does not use chromium-based water treatment chemicals.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), 40 CFR 63, Subpart R, are not included in the permit for this source, since the source does not meet the definition of a bulk gasoline terminal pursuant to 40 CFR 63.421 because it does not receive gasoline by pipeline, ship, or barge.

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning, 40 CFR 63, Subpart T and 326 IAC 20-6 are not included in the permit for this source, since the source does not use a halogenated HAP solvent listed in 40 CFR 64.460(a) for its degreasing operations.

(h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Tanks - Level 1, 40 CFR 63, Subpart OO and 326 IAC 20-35 are not included in the permit for this source, since the source is not subject to another Subpart of 40 CFR Parts 60, 61, or 63 that references the use of Subpart OO.

(i) This source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, 40 CFR 63, Subpart SS is referenced in 40 CFR 63, Subpart FFFF,
which is applicable to the source as described under that rule applicability discussion. The provisions of 40 CFR 63, Subpart SS are included as Attachment H to the permit.

(j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Equipment Leaks - Control Level 1, 40 CFR 63, Subpart TT and 326 IAC 20-40 are not included in the permit for this source, since the source is not subject to another subpart that references the use of Subpart TT.

(k) This source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Equipment Leaks - Control Level 2 Standards, 40 CFR 63, Subpart UU is referenced in 40 CFR 63, Subpart FFFF, which is applicable to the source as described under that rule applicability discussion. The provisions of 40 CFR 63, Subpart UU are included as Attachment I to the permit.

(l) This source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Storage Vessels (Tanks) - Control Level 2, 40 CFR 63, Subpart WW is referenced in 40 CFR 63, Subpart FFFF, which is applicable to the source as described under that rule applicability discussion. The provisions of 40 CFR 63, Subpart WW are included as Attachment J to the permit.

(m) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Liquids Distribution (Non-Gasoline), 40 CFR 63, Subpart EEEE and 326 IAC 20-83 are not included in the permit for this source, since the source is subject to 40 CFR 63, Subpart FFFF, and pursuant to 40 CFR 63.2338(c)(1), storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that are part of an affected source under another 40 CFR part 63 NESHAPs are excluded from the affected source under Subpart EEEE.

(n) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63, Subpart FFFF, which is incorporated by reference as 326 IAC 20-84, because it operates miscellaneous organic chemical manufacturing process units (MCPU) at a major source of HAP, as defined in 40 CFR 63.2550 and specified in 40 CFR 63.2435(b). The SIC code of 2869 is applicable to the source for the manufacture of fuel grade ethanol. Pursuant to 40 CFR 63.2435(b), an MCU consists of equipment necessary to operate a miscellaneous organic chemical manufacturing process, including: storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used to manufacture fuel grade ethanol. Pursuant to 40 CFR 63.2440, the affected source is the facilitywide collection of MCU and heat exchange systems, wastewater, and waste management units that are associated with the manufacturing materials for fuel grade ethanol. The source is considered an existing affected source because it was constructed prior to April 4, 2002.

The affected source is subject to the following portions of Subpart FFFF:

(1) 40 CFR 63.2430
(2) 40 CFR 63.2435(a), (b), (d), (e)
(3) 40 CFR 63.2440
(4) 40 CFR 63.2445(b), (c), (d), (e), (f)
(5) 40 CFR 63.2450
(6) 40 CFR 63.2455
(7) 40 CFR 63.2460
(8) 40 CFR 63.2470
(9) 40 CFR 63.2475
(10) 40 CFR 63.2480
(11) 40 CFR 63.2485
(12) 40 CFR 63.2490
The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the affected source except as otherwise specified in 40 CFR 63, Subpart FFFF.

In addition to 40 CFR 63, Subparts H, SS, UU, and WW, 40 CFR 63, Subpart FFFF also references 40 CFR 65, Subpart F - Equipment Leaks.

(o) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ and 326 IAC 20-82 are not included in the permit for the lighting tower emergency generator, since this unit is a non-road engine as defined in 40 CFR 63.1068.30. This Subpart applies to stationary RICE, as defined in 40 CFR 63.6670, which does not include non-road engines.

(p) The emergency fire pump is subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82, because the emergency fire pump is a stationary reciprocating internal combustion engine located at a major source of HAP emissions. The unit subject to this rule include the following:

(1) One (1) 425 horsepower, No. 2 distillate oil-fired emergency fire water pump engine, installed in March 2000, with all emissions exhausted through Stack UP57. Under 40 CFR 63, Subpart ZZZZ, this unit is considered an existing affected source.

This emission unit is subject to the following portions of Subpart ZZZZ:

(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), (d), (e), (f)
(9) 40 CFR 63.6645(a)(5)
(10) 40 CFR 63.6650(d), (f)
(11) 40 CFR 63.6655(a), (d), (e)(2), (f)(1)
(12) 40 CFR 63.6660
(13) 40 CFR 63.6665
(14) 40 CFR 63.6670
The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the unit except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD and 326 IAC 20-95 are not included in the permit for each of the dryers, since they are direct-fired units and therefore do not meet the definition of process heaters.

This source is subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD, which is incorporated by reference as 326 IAC 20-95, because the source operates industrial boilers at a major source of HAPs. The units subject to this rule include the following:

(1) Two (2) natural gas-fired boilers, identified as Boiler 1 and 2, each with a heat input capacity of 271 MMBtu/hr, installed in March 2000 and re-permitted in 2015, each equipped with one (1) low NOx burner and a flue gas recirculation system to control combustion NOx emissions, with all emissions exhausted through Stack UP51.

Under 40 CFR 60, Subpart Db, these are considered affected facilities.

Insignificant Activity:

(2) One (1) natural gas-fired boiler, identified as Natural Gas Boiler, installed in 1999, with a maximum heat input capacity of 2.1 MMBtu/hr.

Under 40 CFR 63, Subpart DDDDD, this is considered an existing affected source.

Boiler 1 and Boiler 2 are subject to the following portions of Subpart DDDDD:

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a), (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 63.7501
(8) 40 CFR 63.7505(a)
(9) 40 CFR 63.7510(e), (j)
(10) 40 CFR 63.7515(d)
(11) 40 CFR 63.7530(d), (e)
(12) 40 CFR 63.7540(a)(10), (a)(13), (b)
(13) 40 CFR 63.7545(a), (b), (f), (h)
(14) 40 CFR 63.7550(a), (b), (c), (h)
(15) 40 CFR 63.7555(a)
(16) 40 CFR 63.7560
(17) 40 CFR 63.7565
(18) 40 CFR 63.7570
(19) 40 CFR 63.7575
(20) Table 3 to Subpart DDDDD of Part 63, Items 3 and 4
(21) Table 9 to Subpart DDDDD of Part 63
(22) Table 10 to Subpart DDDDD of Part 63
The Natural Gas Boiler is subject to the following portions of Subpart DDDDD:

1. 40 CFR 63.7480
2. 40 CFR 63.7485
3. 40 CFR 63.7490(a), (d)
4. 40 CFR 63.7495(b), (d)
5. 40 CFR 63.7499(l)
6. 40 CFR 63.7500(a)(1), (a)(3), (e), (f)
7. 40 CFR 63.7501
8. 40 CFR 63.7505(a)
9. 40 CFR 63.7510(e), (j)
10. 40 CFR 63.7515(d)
11. 40 CFR 63.7530(d), (e)
12. 40 CFR 63.7540(a)(12), (a)(13), (b)
13. 40 CFR 63.7545(a), (b), (h)
14. 40 CFR 63.7550(a), (b), (c), (h)
15. 40 CFR 63.7555(a)
16. 40 CFR 63.7560
17. 40 CFR 63.7565
18. 40 CFR 63.7570
19. 40 CFR 63.7575
20. Table 3 to Subpart DDDDD of Part 63, items 1 and 4
21. Table 9 to Subpart DDDDD of Part 63
22. Table 10 to Subpart DDDDD of Part 63

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to these units except as otherwise specified in 40 CFR 63, Subpart DDDDD.

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Category: Gasoline Dispensing Facilities, 40 CFR 63, Subpart CCCCCC are not included in the permit for this source, since pursuant to 40 CFR 63.111111(a), this rule is applicable to gasoline dispensing facilities at area sources of HAPs, and this source is not an area source of HAPs.

There are no other National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included in the permit.

**Compliance Assurance Monitoring (CAM):**

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is 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.
The following table is used to identify the applicability of CAM to each 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</th>
<th>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>Truck and Railcar Unloading Process</td>
<td>PM</td>
<td>BH (CPC01)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>N</td>
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<tr>
<td></td>
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<td>Alcohol Distillation System</td>
<td>VOC</td>
<td>RTO (APC30)</td>
<td>326 IAC 2-2, 326 IAC 8-1-6</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>-</td>
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<tr>
<td>Beverage Alcohol Storage System</td>
<td>VOC</td>
<td>RTO (APC30)</td>
<td>326 IAC 2-2, 326 IAC 8-1-6</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
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<tr>
<td>Fuel Alcohol Storage System</td>
<td>VOC</td>
<td>EF (APC97)</td>
<td>326 IAC 2-2, 326 IAC 8-1-6</td>
<td>&lt;100</td>
<td>-</td>
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<tr>
<td>Demeth Feed Tank</td>
<td>VOC</td>
<td>EF (APC97)</td>
<td>326 IAC 2-2, 326 IAC 8-1-6</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>Alcohol and Distillation Products Loadout Area</td>
<td>VOC</td>
<td>EF (APC97)</td>
<td>326 IAC 2-2, 326 IAC 8-1-6</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
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<tr>
<td>Starch Reactor Dry Soda Ash Feed System</td>
<td>PM</td>
<td>BVC (SPC64)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM10</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM2.5</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N</td>
<td>-</td>
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<tr>
<td>Starch Dryer</td>
<td>PM</td>
<td>WS (SPC49)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td></td>
<td>PM10</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>PM2.5</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Starch Storage System</td>
<td>PM</td>
<td>BVC (SPC50)</td>
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<td>&lt;100</td>
<td>-</td>
<td>N</td>
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<tr>
<td></td>
<td>PM10</td>
<td></td>
<td>326 IAC 2-2</td>
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<td>-</td>
</tr>
<tr>
<td></td>
<td>PM2.5</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>BH</td>
<td>326 IAC 2-2</td>
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<td>-</td>
<td>N</td>
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<tr>
<td>Emission Unit</td>
<td>Pollutant</td>
<td>Control Device</td>
<td>Applicable Emission Limitation</td>
<td>Uncontrolled PTE (tons/year)</td>
<td>Controlled PTE (tons/year)</td>
<td>CAM Applicable (Y/N)</td>
<td>Large Unit (Y/N)</td>
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<tr>
<td>--------------------------------------------------</td>
<td>-----------</td>
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<td>-------------------------------</td>
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<tr>
<td>Starch Loadout System (non-fugitive emissions)</td>
<td>PM₁₀</td>
<td>(SPC44a)</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
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<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>-</td>
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<tr>
<td>Starch Loadout System (fugitive emissions)</td>
<td>PM</td>
<td>DC (SPC44b)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>N</td>
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</tr>
<tr>
<td>Maltodextrin Filtration System</td>
<td>PM</td>
<td>BVF (MPC61)</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
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<tr>
<td>Dry Carbon Storage Bin</td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
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<tr>
<td>Maltodextrin Filter Aid Storage Bins</td>
<td>PM</td>
<td>BVF (MPC60)</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
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<td>N</td>
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<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
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</tr>
<tr>
<td>Maltodextrin Drying System</td>
<td>PM</td>
<td>(MPC39), WESP (MPC40)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
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<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
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</tr>
<tr>
<td>Maltodextrin Loadout System</td>
<td>PM</td>
<td>DC (MPC41)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
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</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td>Wastewater Treatment Process</td>
<td>H₂S</td>
<td>WS (UPC55)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td>Lime Storage Bin</td>
<td>PM</td>
<td>BVF (UPC52)</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>Process Water Cooling Tower</td>
<td>PM</td>
<td>MES (APC38)</td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&lt;100</td>
<td>-</td>
<td>N</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Spray Dryer</td>
<td>PM</td>
<td>(MPC79), WESP (MPC80)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Transfer PC Receiver</td>
<td>PM</td>
<td>BH (MPC82)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td>Maltodextrin Bin Tower Product Receiver</td>
<td>PM</td>
<td>BH (MPC85)</td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₁₀</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PM₂₅</td>
<td></td>
<td>326 IAC 2-2</td>
<td>&gt;100</td>
<td>&lt;100</td>
<td>Y N</td>
<td>-</td>
</tr>
</tbody>
</table>
Emission Unit | Pollutant | Control Device | Applicable Emission Limitation | Uncontrolled PTE (tons/year) | Controlled PTE (tons/year) | CAM Applicable (Y/N) | Large Unit (Y/N)
--- | --- | --- | --- | --- | --- | --- | ---
Maltodextrin Storage Bins | PM$_{10}$ | (MPC84) | 326 IAC 2-2 | <100 | - | N $^1$ | -
Maltodextrin Storage Bins | PM$_{2.5}$ | | 326 IAC 2-2 | <100 | - | N $^1$ | -
Maltodextrin Storage Bins | PM | BH (MPC81) | 326 IAC 2-2 | >100 | <100 | Y | N
Maltodextrin Storage Bins | PM$_{10}$ | | 326 IAC 2-2 | >100 | <100 | Y | N
Maltodextrin Storage Bins | PM$_{2.5}$ | | 326 IAC 2-2 | <100 | - | N | -

Under the Part 70 Permit program (40 CFR 70), PM is not a regulated air pollutant.

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for regulated air pollutants (PM$_{10}$, PM$_{2.5}$, SO$_2$, NO$_x$, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy.

PM* 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$_{10}$. Therefore, uncontrolled PTE and controlled PTE reflect the emissions of the regulated air pollutant PM$_{10}$.

N $^1$ CAM does not apply for pollutant because the uncontrolled PTE of pollutant is less than the major source threshold.

N $^2$ 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.

N $^2$ 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.

Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber, ESP = Electrostatic Precipitator, BVC = Bin Vent Collector, SI = Steam Injection System, CS = Condenser/Scrubber, EF = Enclosed Flare, WESP = Wet Electrostatic Precipitator, MES = Mist Elimination System

Emision 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 the units listed below for the listed pollutant. 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/Process</th>
<th>Control</th>
<th>Pollutant(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck and Railcar Corn Unloading Process</td>
<td>Baghouse CPC01</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Corn Steeping Process</td>
<td>Scrubber FPC06</td>
<td>SO$_2$</td>
</tr>
<tr>
<td>Milling Area: Primary Milling System, Germ Separation System, Secondary Milling System</td>
<td>Scrubber FPC07</td>
<td>PM, PM$_{10}$, SO$_2$</td>
</tr>
<tr>
<td>Feed Area: Fiber Separation System, Starch and Gluten Separation System</td>
<td>Scrubber FPC27</td>
<td>PM, PM$_{10}$, SO$_2$</td>
</tr>
<tr>
<td>Germ Dryer</td>
<td>Scrubber FPC12, RTOs FPC34a and FPC34b, WESP FPC32</td>
<td>PM, PM$_{10}$, SO$_2$, VOC</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>Scrubber FPC16, RTOs FPC34a and FPC34b, WESP FPC32</td>
<td>PM, PM$_{10}$, SO$_2$, VOC</td>
</tr>
<tr>
<td>Corn Gluten Feed Transport System</td>
<td>Baghouse FPC18</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Corn Gluten Feed Final Mill System</td>
<td>Baghouse FPC19</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Gluten #1 Dryer</td>
<td>Scrubber FPC13, RTOs FPC34a and FPC34b, WESP FPC32</td>
<td>PM, PM$_{10}$, SO$_2$, VOC</td>
</tr>
<tr>
<td>Gluten #2 Dryer</td>
<td>Scrubber FPC13, RTOs FPC34a and FPC34b, WESP FPC32</td>
<td>PM, PM$_{10}$, SO$_2$, VOC</td>
</tr>
<tr>
<td>Gluten Transport System</td>
<td>Baghouse FPC14</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Pellet Milling and Pellet Cooling Systems</td>
<td>Cyclone FPC24</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System</td>
<td>Baghouse FPC26</td>
<td>PM, PM$_{10}$</td>
</tr>
<tr>
<td>Pre-Fermenters</td>
<td>RTO APC30</td>
<td>VOC</td>
</tr>
<tr>
<td>Fermentation System</td>
<td>Scrubber APC29 and RTO APC30</td>
<td>VOC</td>
</tr>
<tr>
<td>Vacuum Degasification System</td>
<td>Scrubber APC34</td>
<td>SO$_2$</td>
</tr>
</tbody>
</table>
State rule applicability for this source has been reviewed as follows:

### 326 IAC 2-2 (PSD)

PSD applicability is discussed under the Potential to Emit After Issuance section of this document.

(a) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (PM10 includes filterable and condensable PM) for the Truck and Railcar Corn Unloading Process, the Corn Storage System, and the Corn Cleaning Process shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Process (Control Device)</th>
<th>Stack</th>
<th>PM Limit (gr/dscf)</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (gr/dscf)</th>
<th>PM10 Limit (lb/hr)</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck and Railcar Corn Unloading Process (Baghouse CPC01)</td>
<td>CP01</td>
<td>0.004</td>
<td>1.03</td>
<td>0.004</td>
<td>1.03</td>
<td>3%</td>
</tr>
<tr>
<td>Corn Cleaning Process and Corn Storage System, (Baghouse FPC05)</td>
<td>FP05</td>
<td>0.005</td>
<td>0.17</td>
<td>0.005</td>
<td>0.17</td>
<td>3%</td>
</tr>
</tbody>
</table>

(b) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Corn Steeping Process shall be as follows:

1. The emissions from the Corn Steeping Process shall be controlled by Caustic Wet Scrubber FPC06.
2. The SO2 emissions from Stack FP06 shall not exceed 4.70 lbs/hr.
3. The adsorption efficiency for Caustic Wet Scrubber FPC06 shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.
(4) The Corn Steeping Process shall be enclosed and shall be under negative pressure (i.e. the direction of air through the enclosure shall be towards the control device).

(c) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 (PM10 includes filterable and condensable PM) for the Milling Area and Feed Area processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Process</th>
<th>Control Device</th>
<th>Stack</th>
<th>PM Limit (gr/dscf)</th>
<th>PM Limit (lb/hr)</th>
<th>PM10 Limit (gr/dscf)</th>
<th>PM10 Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Milling System, Germ Separation System, Secondary Milling System (Milling Area)</td>
<td>Caustic Wet Scrubber (FPC07)</td>
<td>FP07</td>
<td>0.017</td>
<td>1.18</td>
<td>0.017</td>
<td>1.18</td>
</tr>
<tr>
<td>Fiber Separation System, Starch and Gluten Separation System (Feed Area)</td>
<td>Caustic Wet Scrubber (FPC27)</td>
<td>FP27</td>
<td>0.017</td>
<td>2.00</td>
<td>0.017</td>
<td>2.00</td>
</tr>
</tbody>
</table>

(d) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008:

(1) The Best Available Control Technology (BACT) for SO2 for the Primary Milling System, the Germ Separation System, and the Secondary Milling System shall be as follows:

(i) The emissions from the Primary Milling System, the Germ Separation System, and the Secondary Milling System shall be controlled by Caustic Wet Scrubber FPC07.

(ii) The overall control efficiency for Caustic Wet Scrubber FPC07 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(iii) The SO2 emissions from Stack FP07 shall not exceed 4.70 lbs/hr.

(2) The Best Available Control Technology (BACT) for SO2 for the Fiber Separation System and the Starch and Gluten Separation System shall be as follows:

(i) The emissions from the Fiber Separation System and the Starch and Gluten Separation System shall be controlled by Caustic Wet Scrubber FPC27.

(ii) The overall control efficiency for Caustic Wet Scrubber FPC27 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

(iii) The SO2 emissions from Stack FP27 shall not exceed 7.52 lbs/hr.

(e) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (PSD) for PM and PM10 (PM10 includes filterable and condensable PM), for the units of the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:
<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Transport System (Baghouse FPC10)</td>
<td>FP10</td>
<td>0.005 gr/dscf 0.105 lb/hr</td>
<td>0.005 gr/dscf 0.105 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Germ Storage Bin (Bin Vent Filter FPC11)</td>
<td>FP11</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Corn Gluten Feed Transport System (Baghouse FPC18)</td>
<td>FP18</td>
<td>0.005 gr/dscf 1.61 lb/hr</td>
<td>0.005 gr/dscf 1.61 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Corn Gluten Feed Storage System (Bin Vent Filter FPC22)</td>
<td>FP22</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Corn Gluten Feed Final Mill System (Baghouse FPC19)</td>
<td>FP19</td>
<td>0.005 gr/dscf 0.13 lb/hr</td>
<td>0.005 gr/dscf 0.13 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Gluten Transport System (Baghouse FPC14)</td>
<td>FP14</td>
<td>0.005 gr/dscf 0.43 lb/hr</td>
<td>0.005 gr/dscf 0.43 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Gluten Storage System (Bin Vent Filter FPC15)</td>
<td>FP15</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>0.005 gr/dscf 0.005 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Corn Storage Process Supplemental Corn Gluten Feed System (Baghouse FPC20)</td>
<td>FP20</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Germ Drying System (Wet Scrubber FPC12) Corn Gluten Feed Dryer (Wet Scrubber FPC16) Gluten #1 and #2 Dryers (Wet Scrubber FPC13) FPC12, FPC16, and FPC13 exhaust to WESP FPC32 and then to Thermal Oxidizers (in parallel) FPC34a &amp; FPC34b</td>
<td>FP34</td>
<td>0.01 gr/dscf 2.51 lbs/hr</td>
<td>0.01 gr/dscf 11.38 lbs/hr</td>
<td>0%</td>
</tr>
</tbody>
</table>

(f) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, T027-14200-00046, issued on October 19, 2007, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, issued on December 8, 2015, and as revised by PSD/SSM No. 027-42301-00046, the Best Available Control Technology (BACT) for VOC for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

(i) The VOC emissions from the CGF Dryer, the Germ Dryer, the Gluten #1 Dryer, and the Gluten #2 Dryer shall be controlled by one (1) or both Thermal Oxidizers FPC34a and/or FPC34b.

(ii) The overall VOC control efficiency for Thermal Oxidizers FPC34a and FPC34b (including capture and destruction) shall be at least 98% or the VOC outlet concentration shall not exceed 10 ppmv.

(iii) When only one (1) of the two (2) thermal oxidizers is in operation, only one (1) of the (2) Gluten Dryers shall be in operation.
(iv) The VOC emissions from Stack FP34 shall not exceed 21.41 lb/hr, including process and combustion VOC emissions from the CGF Dryer, the Germ Dryer, and the Gluten #1 and #2 Dryers while combusting natural gas and/or biogas.

(g) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for VOC for the Corn Steep and Alcohol Stillage Evaporation System shall be as follows:

(i) The VOC emissions from the Corn Steep and Alcohol Stillage Evaporation System shall be controlled by the Condenser/Scrubber System APC40.

(ii) The overall control efficiency for the Condenser/Scrubber System APC40 (including the capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppm.

(iii) The VOC emissions from Condenser/Scrubber System APC40 shall not exceed 0.11 lb/hr.

(h) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, as revised by PSD/SSM No. 027-29775-00046, issued on November 23, 2011, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NOx for the Germ Production, Corn Gluten Feed Production, Gluten Production Processes shall be as follows:

NOx emissions shall be controlled by the following methods and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Control Device</th>
<th>NOx Limit (lb/MMBtu)</th>
<th>NOx Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer</td>
<td>Steam Injection System</td>
<td>0.04 lb/MMBtu</td>
<td>0.68</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>Low NOx Burners and Flue Gas Recirculation System</td>
<td>0.047 lb/MMBtu</td>
<td>4.37</td>
</tr>
<tr>
<td>Gluten #1 Dryer</td>
<td>Steam Injection System</td>
<td>0.06 lb/MMBtu</td>
<td>--</td>
</tr>
<tr>
<td>Gluten #2 Dryer</td>
<td>Low NOx Burners and Flue Gas Recirculation System</td>
<td>0.06 lb/MMBtu</td>
<td>1.38</td>
</tr>
</tbody>
</table>

(i) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for SO2 for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:
<table>
<thead>
<tr>
<th>Unit(s)</th>
<th>Required Control</th>
<th>SO2 Control Efficiency</th>
<th>SO2 Emission Limit (lb/hr) for Natural Gas Combustion</th>
<th>SO2 Emission Limit (lb/hr) for Biogas Combustion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer</td>
<td>Scrubber FPC12</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>0.55</td>
<td>0.81</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>Scrubber FPC16</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>0.79</td>
<td>N/A</td>
</tr>
<tr>
<td>Gluten #1 Dryer</td>
<td>Scrubber FPC13</td>
<td>90% or ≤ 10 ppmv SO2 outlet concentration</td>
<td>2.78</td>
<td>3.24</td>
</tr>
<tr>
<td>Gluten #2 Dryer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(j) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for CO for the Germ Production, Corn Gluten Feed Production, and Gluten Production Processes shall be as follows:

1. The CO emissions from the CGF Dryer, the Germ Dryer, and the Gluten #2 Dryer shall be controlled by one (1) or both Thermal Oxidizers FPC34a and/or FPC34b.

2. The overall CO Control efficiency for Thermal Oxidizers FPC34a and FPC34b (including capture and destruction) shall be at least 90% or the CO outlet concentration shall not exceed 100 ppmv.

3. The CO emissions from Thermal Oxidizers shall not exceed 0.06 lb/MMBtu each, including combustion CO emissions from the CGF Dryer, Germ Dryer, and the Gluten #1 and #2 Dryers while combusting natural gas and/or biogas.

4. The CO emissions from Stack FP34 shall not exceed 6.30 lb/hr when the Germ Dryer, Gluten #1 Dryer, Gluten #2 Dryer, and RTOs are combusting natural gas alone.

5. The CO emissions from Stack FP34 shall not exceed 6.66 lb/hr when biogas is combusted in either the Germ Dryer, the Gluten #1 Dryer, and/or the Gluten #2 Dryer.

6. The CO emissions from Stack FP34 shall not exceed 9.83 lb/hr when biogas is combusted in one (1) of the Thermal Oxidizers FPC34a or FPC34b.

(k) In order to render the requirements of 326 IAC 2-2 not applicable to FPC34a and FPC34b, the following conditions shall apply:

1. Nitrogen Oxides (NOx)

   (i) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of natural gas used as fuel.

   (ii) The NOx emissions from RTOs FPC34a and FPC34b shall not exceed 460 lbs per MMCF of biogas used as fuel.

   (iii) The total NOx emissions from the combustion of biogas and/or natural gas by Thermal Oxidizers FPC34a and FPC34b shall be less than forty-three (43) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
Compliance with these limits shall limit the net emissions increase of NOx from the thermal oxidizer replacement project to less than forty (40) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable to RTOs FPC34a and FPC34b.

(2) Sulfur Dioxide (SO2)

(i) During biogas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 91.63 pound per MMCF.

(ii) During natural gas combustion, the SO2 emissions from FPC34a and FPC34b shall not exceed 0.6 pounds per MMCF.

(iii) The total SO2 emissions from combustion of biogas and/or natural gas by Thermal Oxidizers FPC34a and FPC34b shall be less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the SO2 emissions from the thermal oxidizers to less than forty (40) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD) not applicable to RTOs FPC34a and FPC34b.

(l) In order to render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, the Permittee shall comply with the following:

The PM2.5 emissions from the Corn Gluten Feed Final Mill System shall be less than 0.33 pounds per hour.

Compliance with the above limit, combined with the potential to emit of PM2.5 from the flare (APC97) and storage piles SP1 and SP2, shall limit the PM2.5 emissions increase from the project to less than ten (10) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 not applicable to the Corn Gluten Feed Final Mill System and flare (APC97).

(m) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (includes filterable and condensable PM) from the Corn Gluten Feed Pellet Production Process shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control Device)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pellet Milling System and Pellet Cooling System (Cyclone FPC24)</td>
<td>FP18</td>
<td>0.06 gr/dscf 18.00 lb/hr</td>
<td>0.03 gr/dscf 9.00 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Pellet Storage Bin (Bin Vent Filter FPC25)</td>
<td>FP25</td>
<td>0.005 gr/dscf 0.004 lb/hr</td>
<td>0.005 gr/dscf 0.004 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

(n) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 emissions (PM10 includes filterable and condensable PM) from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System, and the Feed Loadout Vacuum System shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:
<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System (Baghouse FPC26)</td>
<td>FP26</td>
<td>0.005 gr/dscf 1.50 lb/hr</td>
<td>0.005 gr/dscf 1.50 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

(o) 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 emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System shall be vented through Baghouse FPC28 and shall not exceed 5.70 lbs/hr.

(2) The PM10 emissions from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System shall be vented through Baghouse FPC28 and shall not exceed 3.41 lbs/hr.

(p) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, as revised by PSD/SSM No. 027-29775-00046, issued on November 23, 2011, as revised by PSD/SSM No. 027-32953-00046, issued on March 20, 2014, and as revised by PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for VOC for the Pre-Fermenters, the Fermentation System, the Alcohol Distillation System, the Alcohol and Distillation Products Loadout Area, and the Storage Tanks shall be as follows:

VOC emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Control Device</th>
<th>Stack</th>
<th>VOC Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two (2) Pre-Fermenters</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td>98% control efficiency or VOC ≤ 10 ppm, and the VOC emissions, including process and combustion emissions shall not exceed 9.13 lb VOC/hr</td>
</tr>
<tr>
<td>Fermentation System</td>
<td>Scrubber (APC29) and RTO (APC30)</td>
<td>AP30</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Alcohol Distillation System</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Beverage Alcohol Storage System</td>
<td>RTO (APC30)</td>
<td>AP30</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Fuel Alcohol Storage System</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Demeth Feed Tank</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Alcohol and Distillation Products Loadout Area</td>
<td>Enclosed Flare (APC97)</td>
<td>AP97</td>
<td>98% control efficiency for VOC and the VOC emissions shall not exceed 1.59 lb/hr for the Fuel Alcohol Storage System, the Demeth Feed Tank, and the Alcohol and Distillation Products Loadout Area combined</td>
</tr>
<tr>
<td>Storage Tank AP83</td>
<td>Internal Floating Roof</td>
<td>AP83</td>
<td>0.03 lb/hr</td>
</tr>
<tr>
<td>Storage Tank AP84</td>
<td>Internal Floating Roof</td>
<td>AP84</td>
<td>0.03 lb/hr</td>
</tr>
</tbody>
</table>
Facility | Control Device | Stack | VOC Limit
---|---|---|---
Storage Tank AP94 | Internal Floating Roof | AP94 | 0.02 lb/hr
Storage Tank AP85 | Internal Floating Roof | AP85 | 0.20 lb/hr
Storage Tank AP86 | Internal Floating Roof | AP86 | 0.20 lb/hr
Storage Tank AP87 | Internal Floating Roof | AP87 | 0.26 lb/hr
Storage Tank AP88 | Internal Floating Roof | AP88 | 0.13 lb/hr
Storage Tank AP89 | Internal Floating Roof | AP89 | 0.15 lb/hr
Storage Tank AP90 | Internal Floating Roof | AP90 | 0.15 lb/hr
Storage Tank AP91 | Internal Floating Roof | AP91 | 0.21 lb/hr
Alcohol Production Process Fugitive Emissions | None | | 10.40 lb/hr

(q) Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, to assure that the fugitive VOC emissions from the Alcohol Production Process are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program for the equipment of the Alcohol Production Process.

(r) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Flash Cooling System, controlling emissions from the fermentable sugar cooling, steep water, and stillage, shall be as follows:

1. The SO2 emissions from the fermentable sugar cooling, steep water, and stillage shall be controlled by Scrubber APC31.

2. The overall control efficiency for Scrubber APC31 (including the capture efficiency and adsorption efficiency) shall be at least 90%, or the SO2 outlet concentration shall not exceed 15 ppm.

3. The SO2 emissions from Scrubber APC31 shall not exceed 0.53 lb/hr.

(s) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for SO2 for the Alcohol Fermentation System shall be as follows:

1. The SO2 emissions from the Alcohol Fermentation System shall be controlled by wet scrubber APC29 at all times the Alcohol Fermentation System exhaust gases are not being routed to APC30.

2. The total SO2 emissions from the Alcohol Fermentation System shall not exceed 0.0024 pound per hour.
(t) Pursuant to PSD/SSM No. 027-37645-00046 and 326 IAC 2-2-3, the Best Available Control Technology (BACT) for SO2 for the Distillation System shall be as follows:

(1) The total SO2 emissions from the Distillation System shall not exceed 0.012 pound per hour.

(u) Pursuant to 326 IAC 8-1-6 and PSD/SSM No. 027-35177-00046, and as revised in PSD/SSM No. 027-37645-00046, the Best Available Control Technology (BACT) for VOC for the Vacuum Degasification Column shall be as follows:

(1) The VOC emissions from the Vacuum Degasification Column shall be controlled by RTO APC30.

(2) The overall VOC control efficiency for RTO APC30 (including capture efficiency and absorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

(2) The VOC emissions from RTO APC30 shall not exceed 9.13 lb/hr.

(v) 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:

SO2 emissions from the Vacuum Degasification Column shall not exceed 9.0 lb/hr. Compliance with this limit shall limit SO2 emissions from the modification to less than forty (40) tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the Vacuum Degasification Column.

(w) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for VOC shall be as follows:

(1) The VOC emissions emissions from the Daylot and Warehouse tanks shall be controlled by a voluntary Thermal Oxidizer (APC30)

(2) The uncontrolled VOC emissions from the Daylot tanks shall each not exceed 0.0024 pounds per hour, each.

(3) The uncontrolled VOC emissions from the Warehouse tank shall each not exceed 0.0049 pounds per hour.

(x) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM10 (PM10 includes filterable and condensable PM) shall be as follows:

PM and PM10 emissions shall be vented to the associated control device and shall not exceed the emission limits listed in the following table:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Reactor Dry Soda Ash Feed System (Bin Vent Filter SPC64)</td>
<td>SP64</td>
<td>0.02 gr/dscf 0.34 lb/hr</td>
<td>0.01 gr/dscf 0.17 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Starch Dryer (Scrubber SPC49)</td>
<td>SP49</td>
<td>0.092 gr/dscf 4.96 lb/hr</td>
<td>0.092 gr/dscf 4.96 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Starch Storage System (Bin Vent Filter SPC50)</td>
<td>SP50</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>0.005 gr/dscf 0.09 lb/hr</td>
<td>N/A</td>
</tr>
<tr>
<td>Facility (Control)</td>
<td>Stack</td>
<td>PM Limit</td>
<td>PM10 Limit</td>
<td>Opacity</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>Starch Loadout System non-fugitive control (Baghouse SPC44a)</td>
<td>SP44a</td>
<td>0.005 gr/dscf 0.15 lb/hr</td>
<td>0.005 gr/dscf 0.15 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Starch Loadout System fugitive control (Dust Collector SPC44b)</td>
<td>SP44b</td>
<td>0.005 gr/dscf 0.29 lb/hr</td>
<td>0.005 gr/dscf 0.29 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

(y) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for NOx for the Starch Dryer shall be no control and the NOx emissions from the Starch Dryer shall not exceed 0.075 lb/MMBtu.

(z) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised by PSD/SSM No. 027-32742-00046, issued on September 13, 2013, the Best Available Control Technology (BACT) for VOC for the Starch Reactor System (SP46) and the Starch Dryer (SP49) shall be as follows:

1. The VOC emissions from the Starch Reactor System (SP46) shall not exceed 1.0 lb per ten (10) hour period.

2. To ensure that the fugitive VOC emissions from the Starch Reactor System (SP46) are minimized, the Permittee shall develop, implement, and revise as necessary, a visual inspection and maintenance program.

4. The VOC emissions from the Starch Dryer (SP49), including process and combustion emissions, shall be less than 7.7 pounds per hour.

(aa) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO2 for the Starch Dryer (SP49) shall be as follows:

1. The SO2 emissions, when combusting natural gas, shall not exceed 0.6 lb/MMCF and 0.02 lb/hr.

(bb) Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (BACT) for CO for the Starch Dryer shall be good combustion practices.

(cc) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, as revised by PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177, the Best Available Control Technology (BACT) for PM and PM10 (including filterable and condensable PM10) shall be as follows:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM10 Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Carbon Storage Bin (Bin Vent Filter MPC61)</td>
<td>MP61</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Maltodextrin Drying System (Scrubber MPC39 and Wet ESP MPC40)</td>
<td>MP40</td>
<td>0.01 gr/dscf 7.64 lb/hr</td>
<td>0.01 gr/dscf 7.64 lb/hr</td>
<td>0%</td>
</tr>
<tr>
<td>Filter Aid Storage Bins (Bin Vent Filters MPC60)</td>
<td>MP60</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>0.005 gr/dscf 0.03 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Maltodextrin Transfer Conveyor System (Baghouse MPC42)</td>
<td>MP42</td>
<td>0.005 gr/dscf 0.34 lb/hr</td>
<td>0.005 gr/dscf 0.34 lb/hr</td>
<td>3%</td>
</tr>
<tr>
<td>Maltodextrin Storage System (Bin Vent Filters MPC44)</td>
<td>MP44</td>
<td>0.005 gr/dscf 0.009 lb/hr</td>
<td>0.005 gr/dscf 0.009 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>
Facility (Control) | Stack | PM Limit | PM10 Limit | Opacity
--- | --- | --- | --- | ---
Maltodextrin Loadout System (Dust Collector MPC41) | MP41 | 0.005 gr/dscf 0.34 lb/hr | 0.005 gr/dscf 0.34 lb/hr | 3%

(dd) Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for SO2 for the Maltodextrin Dryer shall be no control and SO2 emissions shall not exceed 0.0006 lb/MMBtu and 0.052 lb/hr.

(ee) Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised by PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NOx for the Maltodextrin Dryer shall be as follows:

(1) The NOx emissions from the Maltodextrin Dryer shall be controlled by Good Combustion Practices.

(2) The NOx emissions from the Maltodextrin Dryer shall not exceed 0.075 lb/MMBtu and 6.45 lb/hr.

(ff) Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for VOC for the Maltodextrin Dryer shall be as follows:

(1) The VOC emissions from the Maltodextrin Dryer shall be controlled by Scrubber MPC39.

(2) The overall VOC control efficiency for Scrubber MPC39 shall be at least 90% or the VOC outlet concentration shall not exceed 20 ppmv.

(3) The VOC emissions from Stack MP40 shall not exceed 7.03 lb/hr, including process and combustion emissions.

(gg) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-35177-00046 and SSM 027-42301-00046, the Best Available Control Technology (BACT) for CO for the Maltodextrin Dryer shall be as follows:

(1) The CO emissions from the Maltodextrin Dryer shall be controlled by Good Combustion Practices.

(2) The CO emissions from the Maltodextrin Dryer shall not exceed 0.183 lb/MMBtu and 9.79 lb/hr.

(hh) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for H2S from biogas generation from the anaerobic digestion at the Waste Water Treatment Plant shall be 100% destruction of the H2S by combustion.

(1) All biogas shall be combusted in one (1) or more of the following combustion units:

(i) One (1) 18 MMBtu/hr flare (UPC54)
(ii) One (1) Germ Dryer
(iii) Two (2) Gluten Dryers
(iv) Thermal Oxidizers FPC34a and FPC34b

(2) All biogas generated from anaerobic digestion at the Waste Water Treatment Plant shall be scrubbed prior to combustion.
(ii) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for SO\textsubscript{2} generated during combustion of biogas, shall be as follows:

1. All biogas shall be controlled by Caustic Wet Scrubber UPC55.

2. The overall control efficiency for Scrubber UPC55 (including the capture efficiency and adsorption efficiency) shall be at least 90\% or the H\textsubscript{2}S outlet concentration shall not exceed 550 ppm.

3. The H\textsubscript{2}S emissions from Scrubber UPC55 shall not exceed 2.44 lbs/hr, which is equivalent to 4.58 lbs/hr of SO\textsubscript{2} generated during combustion of biogas.

(jj) Pursuant to 326 IAC 2-2-3 and PSD/SSM No. 027-24380-00046, issued on October 23, 2008, the Best Available Control Technology (BACT) for PM and PM\textsubscript{10} (PM\textsubscript{10} includes filterable and condensable PM) from the Lime Storage Bin shall be as follows:

<table>
<thead>
<tr>
<th>Facility (Control)</th>
<th>Stack</th>
<th>PM Limit</th>
<th>PM\textsubscript{10} Limit</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime Storage Bin (Bin Vent Filter UPC52)</td>
<td>UP52</td>
<td>0.005 gr/dscf 0.05 lb/hr</td>
<td>0.005 gr/dscf 0.05 lb/hr</td>
<td>3%</td>
</tr>
</tbody>
</table>

(kk) Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-24380-00046, issued on October 23, 2008, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for SO\textsubscript{2} for Boiler 1 and Boiler 2, shall be as follows:

1. The SO\textsubscript{2} emissions from Boiler 1 and Boiler 2 shall not exceed 0.0006 lb/MMBtu and 0.16 lb/hr each, when combusting natural gas alone.

(ll) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for PM and PM\textsubscript{10} for Boiler 1 and Boiler 2 shall be as follows:

1. The PM and PM\textsubscript{10} emissions from Boiler 1 and Boiler 2 shall be controlled through the use of Good Combustion Practices.

2. The PM emissions from Boiler 1 and Boiler 2 shall not exceed 0.002 lb/MMBtu and 0.542 lb/hr each, when combusting natural gas alone.

3. The PM\textsubscript{10} emissions from Boiler 1 and Boiler 2 shall not exceed 0.005 lb/MMBtu and 1.36 lb/hr each, when combusting natural gas alone.

(mm) Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for NO\textsubscript{x} for Boiler 1 and Boiler 2 shall be as follows:

1. The NO\textsubscript{x} emissions from Boiler 1 and Boiler 2 shall be controlled using low NO\textsubscript{x} burners and flue gas recirculation.

2. The NO\textsubscript{x} emissions from Boiler 1 and Boiler 2 shall not exceed 0.05 lb/MMBtu and 13.6 lb/hr each.

3. The NO\textsubscript{x} emissions from Boiler 1 and Boiler 2 shall not exceed 0.20 lb/MMBtu and 54.2 lb/hr each, during startup, shutdown, and malfunction.
Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for CO for Boiler 1 and Boiler 2 shall be as follows:

1. The CO emissions from Boiler 1 and Boiler 2 shall be controlled using Good Combustion Practices.
2. The CO emissions from Boiler 1 and Boiler 2 shall not exceed 0.0365 lb/MMBtu and 9.89 lb/hr each.

Pursuant to 326 IAC 2-2-3, PSD CP 027-7239-00046, issued on June 10, 1997, and as revised in PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for VOC for Boiler 1 and Boiler 2 shall be as follows:

1. The VOC emissions from Boiler 1 and Boiler 2 shall be controlled through the use of Good Combustion Practices.
2. The VOC emissions from Boiler 1 and Boiler 2 shall not exceed 0.0015 lb/MMBtu and 0.41 lb/hr each.

Pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997, the Best Available Control Technology (BACT) for PM and PM10 for the process water cooling tower shall be limited as follows:

1. PM emissions shall not exceed 4.5 pounds per hour.
2. PM10 emissions shall not exceed 4.5 pounds per hour.
3. Emissions shall be controlled by mist elimination system APC38.

Pursuant to 326 IAC 2-2-3 and T027-31396-00046, the Best Available Control Technology (BACT) for PM, PM10, SO2, VOC, CO, and NOx for the emergency fire water pump engine shall be as follows:

1. The amount of diesel fuel burned in the emergency fire water pump engine shall not exceed 1,128 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
2. The sulfur content of diesel fuel burned in the emergency fire water pump engine shall not exceed 0.0015%.
3. PM, PM10, VOC, NO, and CO emissions shall be reduced through the implementation of Good Combustion Practices.
4. PM, PM10, VOC, NOx, and CO emissions shall not exceed the limits listed in the table below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Limit (g/hp-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>0.16</td>
</tr>
<tr>
<td>PM10</td>
<td>0.16</td>
</tr>
<tr>
<td>VOC</td>
<td>0.05</td>
</tr>
<tr>
<td>NOx</td>
<td>9.5</td>
</tr>
<tr>
<td>CO</td>
<td>2.01</td>
</tr>
</tbody>
</table>

Pursuant to 326 IAC 2-2-3, PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for PM, PM10 and PM2.5 (including filterable and condensable PM10) shall be as follows:
Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, and PSD/SSM No. 027-39311-00046, the Best Available Control Technology (BACT) for VOC shall be as follows:

1. **Maltodextrin Dryer (MP80)**
   - (i) The VOC emissions from the Maltodextrin Dryer shall be controlled by Scrubber MPC79.
   - (ii) The overall VOC control efficiency for Scrubber MPC79 shall be at least 90% or the VOC outlet concentration shall not exceed 20 ppmv.
   - (iii) The VOC emissions from Stack MP79 shall not exceed 12.27 pounds per hour, including process and combustion emissions.

2. **Tanks**
   - (i) The VOC emissions from the Maltodextrin tanks shall each not exceed 0.048 pounds per hour.
   - (ii) The VOC emissions from the Vacuum tanks shall each not exceed 0.054 pounds per hour.

3. **Natural Gas-Fired Forced Air Heaters (Building 307 and Building 305)**
   - (i) The forced air heaters shall combust natural gas.
   - (ii) The forced air heaters shall be controlled by good combustion practices.
   - (iii) VOC emissions from the forced air heaters shall not exceed 0.026 lb/hour.

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

The provisions of 326 IAC 2-4.1 apply to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.41, after July 27, 1997, unless the major source has been specifically regulated under or exempted from regulation under a NESHAP that was issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act (CAA) and incorporated
under 40 CFR 63. On and after June 29, 1998, 326 IAC 2-4.1 is intended to implement the requirements of Section 112(g)(2)(B) of the Clean Air Act (CAA).

(a) The initial plant construction approval was issued prior to July 27, 1997. Therefore, the provisions of 326 IAC 2-4.1 are not applicable to the initial plant constructed in 2000.

(b) The grain storage bin (Silo F), approved for construction in SSM No. 027-22018-00046, issued on May 7, 2006 does not have the potential to emit HAPs. Therefore, the provisions of 326 IAC 2-4.1 are not applicable Silo F.

(c) The new units approved for construction in PSD/SSM No. 027-24380-00046, issued on October 23, 2008, including two (2) Steep Tanks, a Gluten Tank and Filter Press, two (2) Gluten Filters, Starch Tank, Gluten #2 Dryer, Feed Loadout Vacuum System each have single HAP emissions of less than ten (10) tons per year and combined HAP emissions of less than twenty-five (25) tons per year. Therefore, the provisions of 326 IAC 2-4.1 are not applicable to any of the new units as part of SSM No. 027-24380-00046. Additionally, none of the modified units were reconstructed.

(d) The new units approved for construction in PSD/SSM No. 027-29775-00046, issued on November 23, 2011, including Tank AP82, Tank AP83, Storage Piles SP1 and SP2, and Flare APC97 each have single HAP emissions of less than ten (10) tons per year and combined HAP emissions of less than twenty-five (25) tons per year. Therefore, the provisions of 326 IAC 2-4.1 are not applicable to any of the new units as part of SSM No. 027-32742-00046. Additionally, none of the modified units were reconstructed.

(e) The Vacuum Degasification Column as proposed for construction in PSD/SSM No. 027-35177-00046 has potential single HAP emissions greater than ten (10) tons per year. Therefore, in order to render 326 IAC 2-4.1 not applicable to the Vacuum Degasification Column, the Permittee shall comply with the following:

Acetaldehyde emissions from the Vacuum Degasification Column shall not exceed 2.2 lb/hr. Compliance with this limit shall limit single HAP emissions from the Vacuum Degasification Column to less than ten (10) tons per twelve (12) consecutive month period and shall render 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) not applicable to the Vacuum Degasification Column.

326 IAC 2-6 (Emission Reporting)
This source is subject to the requirements of 326 IAC 2-6 (Emission Reporting), since it has the potential to emit PM10 and VOC equal to or greater than two hundred fifty (250) tons per year. Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit annually, by July 1, 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.

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 certifications 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 Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source was constructed after December 13, 1985 and has potential fugitive particulate emissions of twenty-five (25) tons per year or more. Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan that is included as Attachment A to the permit.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a), this source (located in Daviess County) is not subject to the requirements of 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.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Daviess County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

<table>
<thead>
<tr>
<th>State Rule Applicability – Individual Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>State rule applicability has been reviewed as follows:</td>
</tr>
</tbody>
</table>

**Truck and Railcar Corn Unloading Process, Corn Storage System, and Cleaning Process**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Truck and Railcar Corn Unloading Process, the Corn Storage System, and the Corn Cleaning Process have emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The Truck and Railcar Corn Unloading Process, the Corn Storage System, and the Corn Cleaning Process are not subject to 326 IAC 326 IAC 7-1.1 because they have a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, the Truck and Railcar Corn Unloading Process, the Corn Storage System, and the Corn Cleaning Process were constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

**Corn Steeping Process**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The requirements of 326 IAC 6-3-2 are not applicable to the corn steeping process, since it is not a source of particulate emissions.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the Corn Steeping Process is subject to the requirements of 326 IAC 7-1.1 because it has an uncontrolled potential to emit greater than twenty-five (25) tons of SO2 per year.
However, the Corn Steeping Process does not combust oil or coal and therefore is not subject to any of the emission limitations in 326 IAC 7-1.1-2.

**26 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**

Even though, the Corn Steeping Process was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because it is not a source of VOC emissions.

### Milling Area and Feed Area

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Milling Area processes and Feed Area processes have emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

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

Pursuant to 326 IAC 7-1.1-1, the Milling Area processes and Feed Area processes are subject to the requirements of 326 IAC 7-1.1 because they have an uncontrolled potential to emit greater than 25 tons of SO₂ per year. However, these processes do not combust oil or coal and therefore are not subject to the emission limitations in 326 IAC 7-1.1-2.

**26 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**

Even though, the Milling Area and Feed Area was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because it is not a source of VOC emissions.

### Germ, Corn Gluten Feed, and Gluten Production

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

(a) Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Germ Transport System, Germ Storage Bin, Corn Gluten Feed Transport System, Corn Gluten Feed Storage System, Corn Gluten Feed Final Mill System, Gluten Storage System, Corn Storage Process Supplemental Corn Gluten Feed System, Germ Drying System, CGF Dryer, and Gluten #1 and #2 Dryers have emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

(b) The Corn Steep and Alcohol Stillage Evaporation System is not subject to 326 IAC 6-3 because it is not a source of particulate emissions.

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

Pursuant to 326 IAC 7-1.1-1, the Germ, Corn Gluten Feed, and Gluten Production Processes are subject to the requirements of 326 IAC 7-1.1 because each has an uncontrolled potential to emit greater than twenty-five (25) tons of SO₂ per year. However, those production processes do not combust oil or coal and therefore are not subject to the emission limitations in 326 IAC 7-1.1-2.

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

The requirements of 326 IAC 8-1-6 are applicable to new facilities (as of January 1, 1980) that have potential emissions of twenty-five (25) tons or more per year of VOC, are located anywhere in the state, and that are not otherwise regulated by another provision in 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56.

(a) The Corn Gluten Feed Dryer, Germ Dryer, and Gluten #1 and #2 Dryers were each constructed after January 1, 1980 and have potential VOC emissions greater than twenty-five (25) tons per year. Therefore, they are subject to the requirements of 326 IAC 8-1-6. The emissions from
those dryers are subject to 326 IAC 2-2 PSD BACT for VOC, which satisfies the requirements of 326 IAC 8-1-6. See the 326 IAC 2-2 rule applicability above for the BACT determinations.

(b) The Corn Steep and Alcohol Stillage Evaporation System has potential VOC emissions of less than twenty-five (25) tons per year. Therefore, it is not subject to the requirements of 326 IAC 8-1-6.

c) The Germ Transport System, Germ Storage Bin, Corn Gluten Feed Transport System, Corn Gluten Feed Storage System, Corn Gluten Feed Final Mill System, Gluten Transport System, Gluten Storage System, and Corn Storage Process Supplemental Corn Gluten Feed System do not have the potential to emit VOC. Therefore, these units are not subject to 326 IAC 8-1-6.

Corn Gluten Feed Pellet Production Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Corn Gluten Feed Pellet Production Process has emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The Corn Gluten Feed Pellet Production Process is not subject to any 326 IAC 7 rule because the process is not a source of SO2 emissions.

326 IAC 8 (Volatile Organic Compound Emission Limitations)
The Corn Gluten Feed Pellet Production Process is not subject to any 326 IAC 8 rule because the process is not a source of VOC emissions.

Germ, Gluten, Gluten Feed, and Gluten Feed Pellet Loadout Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(a) Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System have emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

(b) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System, since it is a manufacturing process not exempted from this rule under 326 IAC 6-3-1(b) and is not subject to a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in this rule as specified in 326 IAC 6-3-1(c).

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout Transfer Conveyor System shall not exceed 50.2 pounds per hour when operating at a process weight rate of 90 tons per hour. The pound per hour limitation was calculated with the following 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

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

Based on calculations, the control equipment is not needed to comply with this limit.
326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The Germ, Gluten, Gluten Feed, and Gluten Feed Pellet Loadout Process is not subject to any 326 IAC 7 rule because the process is not a source of SO2 emissions.

326 IAC 8 (Volatile Organic Compound Emission Limitations)
The Germ, Gluten, Gluten Feed, and Gluten Feed Pellet Loadout Process is not subject to any 326 IAC 8 rule because the process is not a source of VOC emissions.

Alcohol Production Process

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)
Acetaldehyde emissions from the Vacuum Degasification Column shall not exceed 2.2 lb/hr. Compliance with this limit shall limit single HAP emissions from the Vacuum Degasification Column to less than ten (10) tons per twelve (12) consecutive month period and shall render 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) not applicable to the Vacuum Degasification Column.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The Alcohol Production Process is not subject to 326 IAC 6-3 because it is not a source of particulate emissions.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the Alcohol Production Process is subject to the requirements of 326 IAC 7-1.1 because it has an uncontrolled potential to emit greater than twenty-five (25) tons of SO2 per year. However, the process does not combust oil or coal and therefore is not subject to the emission limitations in 326 IAC 7-1.1-2.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
(a) The Pre-Fermentaters, the Fermentation System, the Distillation System, the Alcohol Storage System, and the Alcohol and Distillation Products Loadout Area are subject to the requirements of 326 IAC 8-1-6, because they were constructed after January 1, 1980, and each has unlimited VOC potential emissions equal to or greater than twenty-five (25) tons per year, and the units are not regulated by other rules in 326 IAC 8. Therefore, they are subject to the requirements of 326 IAC 8-1-6. The emissions from these units are subject to 326 IAC 2-2 PSD BACT for VOC, which satisfies the requirements of 326 IAC 8-1-6. See the 326 IAC 2-2 rule applicability above for the BACT determinations.

(b) Even though, the remaining tanks and units related to the Alcohol Production Process were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because they each have unlimited VOC potential emissions of less than twenty-five (25) tons per year.

(c) The Vacuum Degasification Column is subject to the requirements of 326 IAC 8-1-6, because it was constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year, and the Vacuum Degasification Column is not regulated by other rules in 326 IAC 8. Therefore, a Best Available Control Technology (BACT) analysis was required for the unit. Pursuant to 326 IAC 8-1-6 and PSD/SSM No. 027-35177-00046, the Best Available Control Technology (BACT) for VOC for the Vacuum Degasification Column shall be as follows:

(1) The VOC emissions from the Vacuum Degasification Column shall be controlled by Wet Scrubber APC34.

(2) The overall VOC control efficiency for Scrubber APC34 (including capture efficiency and absorption efficiency) shall be at least 98%.

(3) The VOC emissions from Scrubber APC34 shall not exceed 2.46 lb/hr.

Compliance with the above limit shall also render 326 IAC 2-2 (Prevention of Significant
Deterioration) not applicable to the Vacuum Degasification Column.

Starch Production Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Starch Production Process has emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The only unit in the starch production process that emits SO2 is the Starch Dryer due to the combustion of natural gas or biogas. The potential to emit of SO2 is less than twenty-five (25) tons per year. Therefore, the provisions of 326 IAC 7-1.1 are not applicable to the Starch Dryer.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
(a) Even though, the Starch Reactor System and Starch Dryer were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because their unlimited VOC potential emissions are each less than twenty-five (25) tons per year.

(b) No other units, as part of the Starch Production Process, have potential VOC emissions. Therefore, no units from the Starch Production Process are subject to the requirements of 326 IAC 8-1-6.

Maltodextrin Production Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 2-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Maltodextrin Production Process units have emission limitations established in 326 IAC 2-2-3 that are more stringent than the particulate limitations that would be established in 326 IAC 6-3-2. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to these units.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The Maltodextrin Dryer is not subject to 326 IAC 326 IAC 7-1.1 because it has a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour. No other unit of the Maltodextrin Production Process has the potential to emit SO2. Therefore, the provisions of 326 IAC 7-1.1 are not applicable to the Maltodextrin Production Process.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
(a) The Maltodextrin Dryer is subject to the requirements of 326 IAC 8-1-6, because it was constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year, and the Maltodextrin Dryer is not regulated by other rules in 326 IAC 8. Therefore, the Maltodextrin Dryer is subject to 326 IAC 8-1-6. This unit is subject to 326 IAC 2-2 PSD BACT for VOC, which satisfies the requirements of 326 IAC 8-1-6. See the 326 IAC 2-2 rule applicability above for the BACT determination.

(b) Even though, the other units of the Maltodextrin Production Process were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because their unlimited VOC potential emissions are each less than twenty-five (25) tons per year.
Anaerobic Wastewater Treatment Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(a) Pursuant to 326 IAC 6-3-1.5, the Anaerobic Wastewater Treatment Process is not subject to the requirements of 326 IAC 6-3, since this process is not a manufacturing process.

(b) Pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 shall not apply if a particulate matter limitation established in 326 IAC 6-2-3 is more stringent than the particulate limitation that would be established in 326 IAC 6-3. The Lime Storage Bin has an emission limitation established in 326 IAC 2-2-3 that is more stringent than the particulate limitation that would be established in 326 IAC 6-3-2. Additionally, the Lime Storage Bin is not part of a manufacturing process. Therefore, the provisions of 326 IAC 6-3-2 are not applicable to the Lime Storage Bin.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the Anaerobic Wastewater Treatment Process is subject to the requirements of 326 IAC 7-1.1 because it has an uncontrolled potential to emit greater than twenty-five (25) tons of SO2 per year. However, the process does not combust oil or coal and therefore is not subject to the emission limitations in 326 IAC 7-1.1-2.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, the Anaerobic Wastewater Treatment Process and Lime Storage Bin were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because they are not sources of VOC emissions.

Boilers

326 IAC 3-5 (Continuous Monitoring of Emissions)
Pursuant to 326 IAC 3-5-1(a)(2), Boiler 1 and Boiler 2 are subject to the requirements of 326 IAC 3-5 because they each are fossil fuel-fired steam generators with a heat input capacity greater than 100 MMBtu/hr.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), Boiler 1 and Boiler 2 are subject to the requirements of 326 IAC 6-2-4 because they were constructed after September 21, 1983 and are indirect heating sources of particulate emissions.

However, pursuant to 326 IAC 6-2-1(g), if any limitation established by 326 IAC 6-2 is inconsistent with a limitation contained in a facility’s construction or operation permit as issued pursuant to 326 IAC 2 concerning permit review regulations, then the limitations contained in the source’s current permit prevail. Therefore, the particulate limits established pursuant to 326 IAC 2-2-3 and PSD CP 027-7239-00046, issued on June 10, 1997 shall prevail.

326 IAC 7-1.1 Sulfur Dioxide Emission Limitations
The boilers are not subject to 326 IAC 326 IAC 7-1.1 because they each have a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, Boiler 1 and Boiler 2 were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because their unlimited VOC potential emissions are each less than twenty-five (25) tons per year.

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to Boiler 1 or Boiler 2, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.
326 IAC 10-2 (NO2 Emissions from Large Affected Units)
In July 2018, the Clean Air Interstate Rule (CAIR) requirements at 326 IAC 24-3 were repealed and IDEM adopted NOx requirements in 326 IAC 10-2 to demonstrate compliance with the NOx SIP Call requirements.

Pursuant to 326 IAC 10-2-1(b)(2)(C), this rule applies to the owner or operator of an emission unit that meets the following criteria:

(1) A unit that is not a cogeneration unit and that has a maximum design heat input capacity of greater than two hundred fifty (250) MMBtu per hour; and

(2) A unit commencing operation on or after January 1, 1999, and at no time serves a generator producing electricity for sale;

and is not subject to:
(3) the CSAPR NOx Ozone Season Group 2 Trading Program established under 40 CFR 97, Subpart EEEEEE;
(4) an equivalent trading program established under regulations approved as a state implementation plan revision under 40CFR 52.38(b)(9);
(5) 326 IAC 10-3-1(a)(2); or
(6) 326 IAC 10-3-1(a)(3)

Boilers 1 and 2 were constructed after January 1, 1999 and do not serve a generator, have a maximum design heat input capacity of greater than 250 MMBtu per hour, and are not subject to the requirements of (3) through (6) above. Therefore, the requirements of 326 IAC 10-2 apply to Boilers 1 and 2.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to the Boilers, since these units are not a blast furnace gas-fired boiler, a Portland cement kiln, or a facility specifically listed under 326 IAC 10-3-1(a)(2).

326 IAC 24 (Cross-State Air Pollution Rule (CSAPR) Programs)
The USEPA has enacted the Cross State Air Pollutant Rule (CSAPR) which has replaced the Clean Air Interstate Rule (CAIR) effective January 1, 2015. Therefore, the Clean Air Interstate Rule (CAIR) expired on December 31, 2014. The Indiana Department of Environmental Management (IDEM) adopted the CAIR rule as State rule, 326 IAC 24-3. The Clean Air Interstate Rule (CAIR) Sulfur Dioxide Trading Program rule (326 IAC 24-2) and the Nitrogen Oxides Annual Trading Program (326 IAC 24-1) were repealed October 25, 2017. The final rule, The Clean Air Interstate Rule (CAIR) NOx Ozone Season Trading Program (326 IAC 24-3), was repealed on July 27, 2018. Therefore, The Clean Air Interstate Rule requirements are not included in the permit.

326 IAC 24-5 (Nitrogen Oxides (NOx) Annual Trading Program)
Pursuant to 326 IAC 24-5-1(a), this rule applies to CSAPR NOx annual units and CSAPR NOx annual sources as specified in 40 CFR 97.404, as amended by 81 FR 74605, that are located in Indiana. Pursuant to 40 CFR 97.404, the following units in a State shall be CSAPR NOx Annual units, and any source that includes one or more such units shall be a CSAPR NOx Annual source: Any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. Therefore, Boiler 1 and Boiler 2 are not subject to 326 IAC 24-5 since these units do not produce electricity for sale.

326 IAC 24-6 (Nitrogen Oxides (NOx) Ozone Season Group 2 Trading Program)
Pursuant to 326 IAC 24-6-1(a), this rule applies to CSAPR NOx annual units and CSAPR NOx annual sources as specified in 40 CFR 97.804, as added by 81 FR 74627, that are located in Indiana. Pursuant to 40 CFR 97.804, the following units in a State (and Indian country within the borders of such State) shall be CSAPR NOx Ozone Season Group 2 units, and any source that includes one or more such units shall be a CSAPR NOx Ozone Season Group 2 source, subject to the requirements of this subpart: Any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity.
for sale. Therefore, Boiler 1 and Boiler 2 are not subject to 326 IAC 24-6 since these units do not produce electricity for sale.

326 IAC 24-7 (Sulfur Dioxide (SO2) Group 1 Trading Program)
Pursuant to 326 IAC 24-7-1(a), this rule applies to CSAPR SO2 Group 1 units and CSAPR SO2 Group 1 sources as specified in 40 CFR 97.604, as amended by 81 FR 74616, that are located in Indiana. The following units in a State (and Indian country within the borders of such State) shall be CSAPR SO2 Group 1 units, and any source that includes one or more such units shall be a CSAPR SO2 Group 1 source, subject to the requirements of this subpart: Any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. Therefore, Boiler 1 and Boiler 2 are not subject to 326 IAC 24-7 since these units do not produce electricity for sale.

Cooling Tower

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(11), noncontact cooling tower systems are exempt from the provisions of 326 IAC 6-3. Therefore, the process water cooling tower is not subject to the requirements of 326 IAC 6-3-2.

326 IAC 7 (Sulfur Dioxide Emission Limitations)
The process water cooling tower is not subject to any 326 IAC 7 rule because it is not a source of SO2 emissions.

326 IAC 8 (Volatile Organic Compound Emission Limitations)
The process water cooling tower is not subject to any 326 IAC 8 rule because it is not a source of VOC emissions.

Emergency Fire Water Pump Engine

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1.5, the Emergency Fire Water Pump Engine is not subject to the requirements of 326 IAC 6-3, since this process is not a manufacturing process.

326 IAC 7-1.1 Sulfur Dioxide Emission Limitations
The Emergency Fire Water Pump Engine is not subject to 326 IAC 326 IAC 7-1.1 because it has a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, the Emergency Fire Water Pump Engine was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))
The emergency fire water pump engine is not subject to the requirements of 326 IAC 10-5 because it is not a large NOx SIP Call engine.

Other Insignificant Activities

Small Natural Gas Boiler

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:

- \( Pt \) = 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.

\( Q \) for the small Natural Gas Boiler is 2.1 MMBtu/hr. Pursuant to 326 IAC 6-2-4(a), for \( Q \) less than 10 MMBtu/hr, \( Pt \) shall not exceed 0.6 lb/MMBtu.

### 326 IAC 7-1.1 Sulfur Dioxide Emission Limitations

The small Natural Gas Boiler is not subject to 326 IAC 7-1.1 because it has a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

### 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

Even though, the small Natural Gas Boiler was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year

### Parts Washer

#### 326 IAC 8-3 (Organic Solvent Degreasing Operations)

Pursuant to 326 IAC 8-3-1(c)(2)(A)(ii), the requirements of 326 IAC 8-3-2 are applicable to the parts washer because it is a cold cleaner degreaser without remote solvent reservoir that was constructed after July 1, 1990. Pursuant to 326 IAC 8-3-1(c)(3)(B), the requirements of 326 IAC 8-3-8 are applicable to the source because they use solvent for a cold cleaner degreaser.

### Gasoline Dispensing Operations

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

The gasoline storage tanks are not subject to the requirements of 326 IAC 8-4-3 because they have capacities of less than 39,000 gallons.

#### 326 IAC 8-4-6 (Gasoline Dispensing Facilities)

Pursuant to 326 IAC 8-4-1(d), 326 IAC 8-4-6(a) and (b) apply to any gasoline storage tank at a gasoline dispensing facility with a monthly gasoline throughput of 10,000 gallons per month or greater. The gasoline dispensing operation at the source has a maximum monthly throughput of less than 10,000 gallons. Therefore, the requirements of 326 IAC 8-4-6 are not applicable to the gasoline dispensing operation.

### Sodium Bisulfite Solution Storage Tank

#### 326 IAC 7-1.1 Sulfur Dioxide Emission Limitations

The sodium bisulfite solution storage tank is not subject to 326 IAC 7-1.1 because it has a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

### Building Heaters

#### 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
The building heaters are not subject to the requirements of 326 IAC 6-2-4 because these heaters are direct fired heaters.

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
Pursuant to 326 IAC 6-3-1.5, the building heaters are not subject to the requirements of 326 IAC 6-3, since the heaters are not a manufacturing process.

**326 IAC 7-1.1 Sulfur Dioxide Emission Limitations**
The building heaters are not subject to 326 IAC 326 IAC 7-1.1 because they have a potential to emit sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

### 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:

**Testing Requirements:**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing or Date of Initial Valid Demonstration</th>
<th>Pollutant/Parameter</th>
<th>Frequency of Testing</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Baghouse (CPCO1)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Corn Storage System and Corn Cleaning Process</td>
<td>Baghouse (FPC05)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td>Corn Steeping Process</td>
<td>Scrubber (FPC06)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Milling Area: Primary Milling System, Germ Separation System, Secondary Milling System</td>
<td>Caustic Wet Scrubber (FPC07)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Feed Area: Fiber Separation System Starch and Gluten Separation System</td>
<td>Caustic Wet Scrubber (FPC27)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Germ, CGF, and Gluten #1 and #2 Dryers</td>
<td>RTOs FPC34a and FPC34b¹</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, VOC</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Emission Unit</td>
<td>Control Device</td>
<td>Timeframe for Testing or Date of Initial Valid Demonstration</td>
<td>Pollutant/Parameter</td>
<td>Frequency of Testing</td>
<td>Authority</td>
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<td>Germ Dryer</td>
<td>RTOs FPC34a and FPC34b</td>
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<td></td>
<td>Wet Scrubber (FPC12)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>SO2</td>
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<td>326 IAC 2-2</td>
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<tr>
<td></td>
<td>Steam Injection System</td>
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<td>NOx</td>
<td></td>
<td>326 IAC 2-2</td>
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<tr>
<td>Gluten Dryers (Nos. 1 and 2)</td>
<td>Wet Scrubber (FPC13)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td></td>
<td>Steam Injection System</td>
<td></td>
<td>NOx</td>
<td></td>
<td>326 IAC 2-2</td>
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<td>Gluten Dryer No. 1</td>
<td>Steam Injection System</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>NOx</td>
<td>every 5 years</td>
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<td>Gluten Dryer No. 2</td>
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<td>NOx</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Corn Gluten Feed Dryer</td>
<td>Wet Scrubber (FPC16)</td>
<td>No later than 180 days after startup of the new wet scrubber (FPC16)</td>
<td>SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td></td>
<td>Low NOx Burners with FGR</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>NOx</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>RTOs FPC34a and FPC34b</td>
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<td>5 years from most recent valid compliance demonstration</td>
<td>NOx²</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Germ Transport System</td>
<td>Baghouse (FPC10)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td>Corn Gluten Feed Transport System</td>
<td>Baghouse (FPC18)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Gluten Transport System</td>
<td>Baghouse (FPC14)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td>Corn Storage Process Supplemental Gluten Feed System</td>
<td>Baghouse (FPC20)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Corn Gluten Feed Final Mill System</td>
<td>Baghouse (FPC19)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, PM2.5</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Corn Steep and Alcohol Stillage Evaporation System</td>
<td>Condenser/Scrubber (APC40)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>VOC</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td>Pellet Milling and Pellet Cooling Systems</td>
<td>Cyclone (FPC24)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<tr>
<td>Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout System</td>
<td>Baghouse (FPC26)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>Flash Cooling System</td>
<td>Scrubber (APC31)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
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<td>RTO (APC30)</td>
<td>June 21, 2018</td>
<td>VOC, Acetaldehyde</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Emission Unit</td>
<td>Control Device</td>
<td>Timeframe for Testing or Date of Initial Valid Demonstration</td>
<td>Pollutant/Parameter</td>
<td>Frequency of Testing</td>
<td>Authority</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------</td>
<td>---------------------</td>
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<td>-----------</td>
</tr>
<tr>
<td>Beverage Alcohol Storage System, and Vacuum Degasification System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Alcohol Storage System Demeth Feed Tank</td>
<td>Enclosed Flare (APC97)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>VOC</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Alcohol and Distillation Products Loadout Area</td>
<td>Scrubber (APC34)</td>
<td>March 28, 2018</td>
<td>SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Starch Dryer</td>
<td>Scrubber (SPC49)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, NOx, VOC, SO2</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Maltodextrin Drying System</td>
<td>Scrubber (MPC39) and Wet Electrostatic Precipitator (MPC40)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10, NOx, VOC, CO</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Maltodextrin Transfer Conveyor System</td>
<td>Baghouse (MPC42)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Maltodextrin Loadout System</td>
<td>Dust Collector (MPC41)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>PM, PM10</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Anaerobic Wastewater Treatment Process</td>
<td>Scrubber (UPC55)</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>H2S</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
<tr>
<td>Boiler 1 and Boiler 2</td>
<td>N/A</td>
<td>5 years from most recent valid compliance demonstration</td>
<td>SO2, PM, PM10, CO, VOC</td>
<td>every 5 years</td>
<td>326 IAC 2-2</td>
</tr>
</tbody>
</table>

**Continuous Emissions Monitoring System (CEMS) and Continuous Opacity Monitoring (COM) Requirements:**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Type of Continuous Monitor (Pollutant Monitored)</th>
<th>Applicable Rule or Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler 1 and Boiler 2</td>
<td>CEMS (NOx, O2)</td>
<td>326 IAC 3-5, 40 CFR 60, Subpart Db, and 40 CFR 75</td>
</tr>
</tbody>
</table>

**Compliance Equations**

Compliance with PSD minor limits for NOx and SO2 shall be determined using the following equation:

(1) Compliance with the limitation in Condition D.4.6(a)(3) shall be determined using the following equation:

\[
\text{NOx Emissions (ton/month)} = \frac{(Y1\times460 \text{ lb/MMCF} + Y2\times460 \text{ lb/MMCF})}{(2000 \text{ lb/ton})}
\]

Where:

- \(Y1\) = the biogas (MMCF) usage at FPC34a and FPC34b per month
- \(Y2\) = the gas natural gas (MMCF) usage at FPC34a and FPC34b per month
(2) Compliance with the limitation in Condition D.4.6(b)(3) shall be determined using the following equation:

\[
\text{SO}_2 \text{ Emissions (ton/month)} = \frac{(Y1 \times 91.63 \text{ lb/MMCF} + Y2 \times 0.6 \text{ lb/MMCF})}{2000 \text{ lb/ton}}
\]

Where:

- \(Y1\) = the biogas (MMCF) usage at FPC34a and FPC34b per month
- \(Y2\) = the gas natural gas (MMCF) usage at FPC34a and FPC34b per month

In order to comply with 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) - Best Available Control Technology (BACT) limits for H2S and SO2, the Permittee shall measure on a daily basis the hydrogen sulfide content of the treated biogas and the total amount of biogas treated by Scrubber UPC55. Whenever the concentration of hydrogen sulfide in the flow exiting UPC55 exceeds 550 ppm or the amount of biogas vented to the scrubber exceeds 50,000 cubic feet per hour, the Permittee shall calculate an average hourly sulfur dioxide emission rate using the following equation:

\[
\text{lbs SO}_2/\text{hr} = \frac{(\text{mole H}_2\text{S}/1\times10^6 \text{ mole Biogas}) \times (2 \text{ mole SO}_2/2 \text{ mole H}_2\text{S}) \times (64.06 \text{ g SO}_2/\text{mole SO}_2) \times (1 \text{ lb/453.59 g}) \times (1 \text{ mole Biogas/24.0 liter Biogas}) \times (28.31 \text{ liter/cuft}) \times (\text{cuft Biogas/hr})}{2000}\]

If untreated biogas is directed to Flare UPC54, the total amount of untreated biogas burned by Flare UPC54 shall be measured and used to calculate an average hourly daily sulfur dioxide emission rate.

(b) The Compliance Monitoring Requirements applicable to this source are as follows:

<table>
<thead>
<tr>
<th>Emission Unit / Control Device</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
<th>Range or Specification</th>
<th>Monitoring Conditions Necessary to Comply with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck and Railcar Corn Unloading Process / Baghouse (CPC01)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Pressure Drop Monitoring</td>
<td></td>
<td>Within normal range of 1.0 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td></td>
</tr>
<tr>
<td>Corn Storage System and Corn Cleaning Process / Baghouse (FPC05)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td></td>
<td>Pressure Drop Monitoring</td>
<td></td>
<td>Within normal range of 1.0 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td></td>
</tr>
<tr>
<td>Corn Steeping Process / Scrubber (FPC06)</td>
<td>pH</td>
<td>Daily</td>
<td>≥ 6.9, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
<tr>
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</tr>
<tr>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 8.8 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 36 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 7.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 190 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed Area: Fiber Separation System, Starch and Gluten Separation System / Scrubber (FPC27)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 13.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 120 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Germ Transport System / Baghouse (FPC10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td></td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
<tr>
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</tr>
<tr>
<td>Gluten Transport System / Baghouse (FPC14)</td>
<td>Pressure Drop Monitoring</td>
<td>Daily</td>
<td>Within normal range of 0.2 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>Significant Deterioration (PSD) Requirements, 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Corn Gluten Feed Transport System / Baghouse (FPC18)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Corn Gluten Feed Final Mill System / Baghouse (FPC19)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Corn Storage Process Supplemental Gluten Feed System / Baghouse (FPC20)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Germ Dryer, Gluten #1 and #2 Dryers, CGF Dryer / RTOs (FPC34a and FPC34b)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Germ Storage Bin / Bin Vent Filter (FPC11)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Corn Gluten Feed Storage System / Bin Vent Filter (FPC22)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Gluten Storage System / Bin Vent Filter (FPC15)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Germ Dryer, Gluten #1 and #2 Dryers, CGF Dryer / RTOs (FPC34a and FPC34b)</td>
<td>Operating Temperature 3-hour average</td>
<td>Continuously</td>
<td>≥ 3-hour average observed during the latest compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Duct Pressure or Fan Amperage</td>
<td>Daily</td>
<td>Range established during latest compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
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</tr>
<tr>
<td>Corn Steep and Alcohol Stillage Evaporation System / Condenser/Scrubber (APC40)</td>
<td>Outlet Exhaust Temperature</td>
<td>Continuously</td>
<td>≤ 3-hour average observed during the latest compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Germ Dryer / Scrubber (FPC12)</td>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 4.0 to 17.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 60 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Gluten #1 and #2 Dryers / Scrubber (FPC13)</td>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 7.0 to 20.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 200 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>CGF Dryer / Scrubber (FPC16)</td>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 0.5 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 1100 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
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</tr>
<tr>
<td>Corn Steep and Alcohol Stillage Evaporation System / Condenser/ Scrubber (APC 40)</td>
<td>Supply Water Pressure</td>
<td>Daily</td>
<td>Within normal range of 15.0 to 20.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Pellet Milling and Pellet Cooling Systems / Cyclone (FPC24)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Pellet Storage Bin / Bin Vent Collector (FPC25)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System / Baghouse (FPC26)</td>
<td>Pressure Drop Monitoring</td>
<td>Daily</td>
<td>Within normal range of 0.5 to 5.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout Transfer Conveyor System / Baghouse (FPC28)</td>
<td>Pressure Drop Monitoring</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Pre-Fermenters and Fermentation System, Distillation System, and Alcohol Storage System / RTOs (APC30)</td>
<td>Operating Temperature 3-hour average</td>
<td>Continuously</td>
<td>≥ 3-hour average observed during the latest compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Fermentation System / Scrubber (APC29)</td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 25.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 25 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Flash Cooling System / Scrubber (APC31)</td>
<td>pH</td>
<td>Daily</td>
<td>≥ 5.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>≤ 3.0 inches of water, unless a different upper bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 5.0 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Daily</td>
<td>≥ 6.0, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum Degasification Column / Scrubber (APC34)</td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 5.0 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
</tr>
<tr>
<td>Soda Ash Storage Bin / Bin Vent Filter (SPC64)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Starch Storage Bin / Bin Vent Filter (SPC50)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Starch Loadout System, non-fugitive emissions / Baghouse (SPC44a)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Pressure Drop Monitoring</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Starch Loadout System, fugitive emissions / Dust Collector (SPC44b)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Pressure Drop Monitoring</td>
<td>Daily</td>
<td>Within normal range of 0.5 to 6.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Starch Dryer / Scrubber (SPC49)</td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 4.0 to 12.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Emission Unit / Control Device</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
<td>Monitoring Conditions Necessary to Comply with</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-----------</td>
<td>-----------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 400 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maltodextrin Filtration System Dry Carbon Storage Bin / Bin Vent Filter (MPC61)</td>
<td>Visible Emissions</td>
<td>Weekly</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Maltodextrin Drying System / Scrubber (MPC39) and Wet ESP (MPC40)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Maltodextrin Filter Aid Storage Bins / Bin Vent Filters (MPC60)</td>
<td>Visible Emissions</td>
<td>Weekly</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Maltodextrin Storage System / Bin Vent Filters (MPC44)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Maltodextrin Transfer Conveyor System / Baghouse (MPC42)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Maltodextrin Loadout System / Dust Collector (MPC41)</td>
<td>Visible Emissions</td>
<td>Daily</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Maltodextrin Dryer / Scrubber (MPC39)</td>
<td>Exhaust Air Stream Pressure Drop</td>
<td>Daily</td>
<td>Within normal range of 3.0 to 12.0 inches of water, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 1500 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 326 IAC 8-1-6 (BACT), 40 CFR 64 (CAM)</td>
</tr>
</tbody>
</table>
### Emission Unit / Control Device

<table>
<thead>
<tr>
<th>Emission Unit / Control Device</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
<th>Range or Specification</th>
<th>Monitoring Conditions Necessary to Comply with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltodextrin Dryer / Wet Electrostatic Precipitator (MPC40)</td>
<td>Secondary Voltage</td>
<td>Daily</td>
<td>≥ 45kV</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td>Lime Storage Bin / Bin Vent Filter (UPC52)</td>
<td>Visible Emissions</td>
<td>Weekly</td>
<td>Verify whether emissions are normal or abnormal</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)</td>
</tr>
<tr>
<td>Anaerobic Wastewater Treatment Process / Scrubber (UPC55)</td>
<td>pH</td>
<td>Daily</td>
<td>Within normal range of 7.8 to 9.3, unless a different upper or lower value is established in the most recent compliant stack test</td>
<td>326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements), 40 CFR 64 (CAM)</td>
</tr>
<tr>
<td></td>
<td>Scrubbant Flow Rate</td>
<td>Daily</td>
<td>≥ 500 gal/min, unless a different lower-bound value is established in the most recent compliant stack test</td>
<td></td>
</tr>
</tbody>
</table>

### 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. Sections A and D - New emission and control unit descriptions for WESP FPC32, FPC16, direct-fired heaters, and 190 proof warehouse tank, have been included.
2. The 2017 Modification to the Alcohol Fermentation System and Alcohol Storage System has been completed. References, emission units, and applicable conditions that were part of the "Prior to 2017 Modification" have been removed.
3. The Feed Loadout Vacuum System and associated baghouse FPC33, Maltodextrin Central Vacuum System, identified as MPC43 (Maltodextrin Vacuum), and Maltodextrin central vacuum system, identified as MP83, have been removed from the source and the permit.
4. The option of burning alcohol with Boilers 1 and 2 has been removed.

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on March 23, 2020.

The operation of this stationary corn wet milling plant shall be subject to the conditions of the attached proposed Part 70 Operating Permit Renewal No. T027-42694-00046.
The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved.

---

**IDEM Contact**

(a) If you have any questions regarding this permit, please contact Tamera Wessel, 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) 234-8530 or (800) 451-6027, and ask for Tamera Wessel.

(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).
### Company Name:
Grain Processing Corporation

### Source Location:
1443 S 300 W, Washington, IN 47501

### Title V Operating Permit Renewal No.:
T027-42694-00046

### Reviewer:
Tamera Wessel

<table>
<thead>
<tr>
<th>Process</th>
<th>Uncontrolled Potential to Emit (tpy)</th>
<th>Single highest HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Control) Stack</td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>Building Heaters -</td>
<td>0.12</td>
<td>0.47</td>
</tr>
<tr>
<td>TK-106-108</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Modified Units Increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGF, Germ, Gluten #1 and Gluten #2 Dryers</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>0.12</td>
<td>0.48</td>
</tr>
</tbody>
</table>

*Highest single HAP is Hexane*

#### Modified Units

<table>
<thead>
<tr>
<th>Process</th>
<th>Stack</th>
<th>Uncontrolled (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer, CGF Dryer, Gluten #1 and #2 Dryers</td>
<td>FP34</td>
<td>1993.08 1993.08 1993.08 844.01 196.58 4690.27 96.62 Increase</td>
</tr>
</tbody>
</table>

Pre-Modification PTE from TSD Appendix A to Significant Permit Modification No. 027-42326-00046

<table>
<thead>
<tr>
<th>Process</th>
<th>Stack</th>
<th>Uncontrolled (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer, CGF Dryer, Gluten #1 and #2 Dryers</td>
<td>1993.08 1993.08 1993.08 844.01 196.58 4690.27 96.62 Increase</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>Stack</th>
<th>Uncontrolled (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer, CGF Dryer, Gluten #1 and #2 Dryers</td>
<td>FP34</td>
<td>0.00 0.00 0.00 0.00 0.00 0.00 0.00 Increase</td>
</tr>
</tbody>
</table>
Page 2 of 48 TSD App A

Appendix A: Emission Calculations
Source Summary - Unrestricted Potential to Emit
Company Name:
Source Location:
Title V Operating Permit Renewal No.:
Reviewer:

Grain Processing Corporation
1443 S 300 W, Washington, IN 47501
T027-42694-00046
Tamera Wessel

Unrestricted Potential to Emit
Stack ID Emission Unit
CP01 Truck and Railcar Corn Unloading Process

Control
Grain Unloading Baghouse (CPC01): particulate

PM
450.51

PM10
450.51

Unrestricted PTE (ton/yr)
PM2.5
SO2
NOx
75.09
---

75.09

75.09

12.51

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205.86

Mill Area Scrubber (FPC07): particulate, SO2

105.65

105.65

105.65

Feed Area Scrubber (FPC27): particulate, SO2

157.68

157.68

Germ Transport Baghouse (FPC10): particulate
Germ Storage Bin Vent (FPC11): particulate

46.93
1.88

46.93
1.88

FP05

Corn Storage System and Corn Cleaning Process

Corn Receiving Transfer Dust Collector (FPC05): particulate

FP06

Corn Steeping Process
Primary Milling System, Germ Separation System,
Secondary Milling System
Fiber Separation System, Starch and Gluten
Separation System
Germ Transport System
Germ Storage Bin

Steep Area Scrubber (FPC06): SO2

FP07
FP27
FP10
FP11
AP40
FP20
FP18
FP22
FP19
FP14
FP15
FP18
FP25
FP28
FP26
AP31

Corn Steep and Alcohol Stillage Evaporation System
Corn Storage Process Supplemental Corn Gluten
Feed System
CGF Transport System
CGF Storage System
CGF Final Mill System
Gluten Transport System
Gluten Storage System
Pellet Milling System, Pellet Cooling System
Pellet Storage Bin
Germ, Gluten, Corn Gluten Feed and Corn Gluten
Feed Pellet Loadout Transfer Conveyor System
Germ, Gluten, Corn Gluten Feed, and Corn Gluten
Feed Pellet Loadout System
Flash Cooling System
Two Pre-Fermenters

AP30

AP97

Fermentation System
RTO APC30 Combustion Emissions
Alcohol Distillation System
Alcohol Storage System - Beverage
Vacuum Degasification Column
Alcohol and Distillation Products Loadout Area
Alcohol Storage System - Fuel
Demeth Feed Tank
Alcohol Loadout Flare (APC97) Combustion

AP83
AP84
AP94
AP85
AP86
AP87
AP88
AP89
AP90
AP91
AP82

SP46
SP64
SP50

Heads Tank #2
Heads Tanks
Burn Tank - Ethanol
Denaturant Tank #1 - Ethyl Acetate
Denaturant Tank #2 - Methanol
Denaturant Tank #3 - Isopropanol
Denaturant Tank #4 - MIBK
Denaturant Mix Tank #2 - Ethanol
Denaturant Mix Tank #1 - Ethanol
Denaturant Mix Tank #3 - Ethanol
Denaturant Mix Tank #5
Alcohol Loadout Fugitives
Fugitive Alcohol Emissions
Starch Reactor Vent (for 8 Starch Reactors)
Starch Reactor Dry Soda Ash Feed System
Starch Storage System (2 of 4 running at any given
time)

VOC
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CO
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205.86

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157.68

329.38

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8.01
0.33

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--

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--

9.93

--

Corn Cleaning Transfer Baghouse (FPC20): particulate

37.54

37.54

6.40

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Fiber Cooling Baghouse (FPC18): particulate
CGF Fiber Storage Bin Vent (FPC22): particulate
Cage Mill Baghouse (FPC19): particulate
Gluten Transport Baghouse (FPC14): particulate
Gluten Storage Bin Vent (FPC15): particulate
Pellet Cooler Cyclone (FPC24): particulate
Pellet Storage Bin Vent (FPC25): particulate

703.93
1.88
844.71
187.71
1.88
262.80
1.88

703.93
1.88
844.71
187.71
1.88
262.80
1.88

120.31
0.33
144.10
32.02
0.33
44.91
0.33

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MR Scrubber (APC40): VOC

Germ/Gluten Transfer Baghouse (FPC28): particulate

68.52

68.52

11.58

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Truck Loadout Baghouse (FPC26): particulate

657.00

657.00

111.01

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23.34

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718.23

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166.62

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0.07
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0.26
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0.26
-------

0.02
0.04
-275.94
----

3.44
-------

0.19
153.30
35.04
538.74
182.49
16.56
*

2.89
-------

Intercondenser Scrubber (APC31): SO2
Prefermenter Scrubber (APC28): for product recovery; Fermentation
System RTO (APC30): VOC
Fermentation Scrubber (APC29): VOC; Fermentation System RTO
(APC30): VOC
Controlling Pre-Fermenters and Fermentation System
Fermentation System RTO (APC30)
Fermentation System RTO (APC30)
Vacuum Degasification Scrubber (APC34): SO2
Alcohol Loadout Flare (APC97): VOC
Alcohol Loadout Flare (APC97): VOC
Alcohol Loadout Flare (APC97): VOC
Controls Alcohol and Distillation Heads Loadout Area, Fuel Alcohol Storage
System; and Demeth Feed Tank
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
Internal Floating Roof: VOC
N/A
N/A
N/A
Soda Ash Bin Vent (SPC64): particulate

0.10

0.39

0.39

0.03

3.57

3.31

16.29

--------------150.17

--------------75.09

--------------13.11

----------------

----------------

0.12
0.13
0.09
0.87
0.87
1.14
0.55
0.67
0.67
0.91
1.13
20.66
45.55
0.14
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0.01

Starch Product Blending Bin Vents (SPC50): particulate

37.54

37.54

6.56

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SP44a Starch Loadout System, non-fugitive

Starch Loadout Receiver Baghouse (SPC44a): non-fugitive particulate

67.58

67.58

11.80

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SP44b Starch Loadout System, fugitive

Starch Loadout Dust Collector (SPC44b): fugitive particulate emissions

126.71

126.71

22.12

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Carbon Bin Vent (MPC61): particulate

13.14

13.14

2.23

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Filter Aid Bin Vent (MPC60): particulate
Maltodextrin Transfer Baghouse (MPC42): particulate

13.14
150.17

13.14
150.17

2.23
56.51

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2.25

2.25

0.85

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150.17
489.71
135.15
135.15
1.80
165.19
-0.04
--22.53
2.21
2.21
24.14

150.17
489.71
135.15
135.15
1.80
165.19
-0.15
--22.53
8.84
8.84
24.14

56.51
489.71
50.86
50.86
0.68
62.16
-0.15
--3.93
8.84
8.84
24.14

-0.15
-----0.01
---0.70
0.70
--

-12.37
-----2.02
---116.37
116.37
--

-537.43
----0.04
0.11
0.21
0.24
-6.40
6.40
--

-20.94
-----1.70
---97.75
97.75
--

123.56

2.98

MP61
MP60
MP42
MP44
MP41
MP80
MP82
MP85
MP84
MP81

Maltodextrin Filtration System Dry Carbon Storage
System
Maltodextrin Filter Aid Storage Bin
Maltodextrin Transfer Conveyor System
Maltodextrin Storage System (2 of 4 running at any
given time)
Maltodextrin Loadout System
Maltodextrin Drying System
Maltodextrin Transfer PC Receiver
Maltodextrin Bin Tower Product Receiver
Maltodextrin Storage Bins
Maltodextrin Loading and Screening Process
Alcohol Tank Farm Tank

Maltodextrin Product Bins Bin Vent (MPC44): particulate
Maltodextrin Packaging Dust Collector (MPC41): particulate
Scrubber & WESP (MPC79 & 80)
Baghouse (MPC82)
Baghouse (MPC85)
Bin Vents (MPC84)
Baghouse (MPC81)
RTO APC30

N/A
N/A
N/A
UP52 Lime Storage Bin
Lime Bin Vent (UPC52): particulate
LNB/FGR: NOx
UP51 Boiler 1 (Worst Case)
Boiler 2 (Worst Case)
LNB/FGR: NOx
AP38 Cooling Tower
Mist Elimination System (APC38): particulate mist
Emissions from Dryers, RTOs FPC34a and RPC34b, and the Biogas Flare shown below with worst case emissions.
Natural gas Heaters
In Process Maltodextrin
Vacuum Tanks Vent

Germ Dryer
Gluten Dryer #1
FP34

Gluten Dryer #2
CGF Dryer

SP49

RTO FPC34a
RTO FPC34b
Starch Dryer

MP40

Maltodextrin Dryer

Biogas Flare Pilot
Biogas Flare
Insignificant Activities
Emergency Fire Water Pump
2.1 MMBtu/hr Natural Gas Boiler
Forced Air Heaters
Space Heaters
Building Heaters
Parts Washer**
Gasoline Dispensing Operation
Sodium Bisulfite Solution Storage Tank
Other***
Fugitive Emissions
Fug
Paved and Unpaved Roads and Parking Lots
Fug
Spent Carbon Storage Pile (SP1)
Fug
Corn Feed Storage Pile (SP2)

Germ Dryer Scrubber (FPC12): particulate, SO2; Steam Injection: NOx;
Thermal Oxidizers (FPC34a and FPC34b): Particulate, CO, VOC
Gluten Dryer Scrubber (FPC13): particulate, SO2; Steam Injection: NOx;
Thermal Oxidizers (FPC34a and FPC34b): Particulate, CO, VOC
Gluten Dryer Scrubber (FPC13): particulate, SO2; LNB/FGR: NOx; Thermal
Oxidizers (FPC34a and FPC34b): Particulate, CO, VOC
Condensing Tower Scrubber (FPC16): particulate, SO2; LNB/FGR: NOx;
Thermal Oxidizers (FPC34a and FPC34b): Particulate, CO, VOC
Controlling Germ Dryer, Corn Gluten Feed Dryer, Gluten Dryer No. 1 and
Gluten Dryer No. 2
Starch Dryer Scrubber (SPC49): particulate
Maltodextrin Dryer Scrubber (MPC39): particulate, VOC; WESP (MPC40):
particulate

UP54

N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Total (Non Fugitive):
*Calculations are not provided for this unit. However, the potential to emit is limited by a federally enforceable limit.
**Emissions for the parts washer are based on the maximum allowed for an insignificant activity. Emissions are expected to be lower.
***Other accounts for any other emissions that have not been accounted for.

6.13

,---1993.08

1993.08 1993.08

370.69

8.41
~

4688.35

6.04
329.62

19.14

11.54
~

8.30

,---33.55

20.14

160.00

1.91

37.10

217.44

217.44

217.44

0.08

10.18

21.90

11.18

477.90

477.90

477.90

0.14

9.37

246.16

42.88

0.15
0.00

0.59
0.00

0.59
0.00

0.05
20.07

5.36
8.94

4.97
8.28

24.44
26.28

0.04
0.02
0.04
0.08
0.12
---10

0.04
0.07
0.17
0.33
0.47
---10

0.04
0.07
0.17
0.33
0.47
---10

0.04
0.01
0.01
0.03
0.04
--0.11
10

0.63
0.90
2.28
4.29
6.22
---10

0.05
0.05
0.13
0.24
0.34
2.74
1.47
-10

0.14
0.76
1.92
3.61
5.23
---10

13.00
4.52
0.43
7993.6

2.65
1.41
0.20
7933.6

0.63
0.14
0.03
4403.4

---1916.6

---508.9

---7435.3

---460.4


## Emission Unit Control PM PM10 PM2.5 SO2 NOx VOC CO

<table>
<thead>
<tr>
<th>Stack ID</th>
<th>Description</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF15</td>
<td>Com Storage System and Com Processing</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
<td>0.63</td>
<td>0.05</td>
<td>0.14</td>
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<tr>
<td>EP05</td>
<td>Com Storage System, Com Processing, and Com Clearing</td>
<td>0.75</td>
<td>0.75</td>
<td>0.13</td>
<td>—</td>
<td>—</td>
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<tr>
<td>EP06</td>
<td>Conveying System</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.63</td>
<td>0.05</td>
<td>0.14</td>
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</table>

## Fugitive Emissions

<table>
<thead>
<tr>
<th>Source</th>
<th>Potential to Emit After Controls</th>
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</thead>
<tbody>
<tr>
<td>FF15</td>
<td>12.36 2.98 93.77 0.61</td>
</tr>
<tr>
<td>EP05</td>
<td>37.07 0.00</td>
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<tr>
<td>EP06</td>
<td>118.52</td>
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## Title V Operating Permit No.

| T027-42301-00046 | 027-42301-00046 |

## Significant Source Modification No.

| 027-42694-00046 | 027-42694-00046 |

## Significant Source No.

| 027-42301-00046 | 027-42301-00046 |

## Summary of Title V Permits

| 027-42301-00046 | 027-42301-00046 |

## Source Location

1443 S 300 W, Washington, IN 47501

## Company Name

Grain Processing Corporation

## Significant Source Modification No.

027-42694-00046

## Significant Source No.

027-42301-00046
<table>
<thead>
<tr>
<th>Area Level</th>
<th>Stack Emission ID</th>
<th>Source Type</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
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</thead>
<tbody>
<tr>
<td>Fugitive Emission</td>
<td>Corn Cleaning Transfer Baghouse (FPC20)</td>
<td>particulate</td>
<td>0.39</td>
<td>0.39</td>
<td>0.39</td>
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<tr>
<td>Fugitive Emission</td>
<td>Alcohol Loadout Flare (APC97)</td>
<td>VOC</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Fugitive Emission</td>
<td>Denaturant Tank #3 - Isopropanol Internal Floating Roof</td>
<td>VOC</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<td>--</td>
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<td>1.14</td>
</tr>
<tr>
<td>Fugitive Emission</td>
<td>Pellet Milling System, Pellet Cooling System Pellet Cooler Cyclone (FPC24)</td>
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<td>78.84</td>
<td>39.42</td>
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<tr>
<td>Fugitive Emission</td>
<td>Pellet Storage Bin Pellet Storage Bin Vent (FPC25)</td>
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<td>0.02</td>
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</tr>
<tr>
<td>Fugitive Emission</td>
<td>Heads Tanks Internal Floating Roof</td>
<td>VOC</td>
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<td>0.13</td>
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<tr>
<td>Fugitive Emission</td>
<td>Flash Cooling System Intercondenser Scrubber (APC31)</td>
<td>SO2</td>
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<td>Fugitive Emission</td>
<td>Maltodextrin Storage Bins (4) Bin Vents (MPC84)</td>
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<tr>
<td>Fugitive Emission</td>
<td>Maltodextrin Transfer PC Receiver Baghouse (MPC82)</td>
<td>particulate</td>
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<td>1.36</td>
<td>0.53</td>
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<tr>
<td>Fugitive Emission</td>
<td>Gluten Dryer Scrubber (FPC13): particulate, SO2; Steam Injection: NOx;</td>
<td>particulate, SO2</td>
<td>4.51</td>
<td>4.51</td>
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<tr>
<td>Fugitive Emission</td>
<td>Maltodextrin Loadout System Maltodextrin Packaging Dust Collector (MPC41)</td>
<td>particulate</td>
<td>1.49</td>
<td>1.49</td>
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<tr>
<td>Fugitive Emission</td>
<td>Grain Unloading Baghouse (CPC01)</td>
<td>particulate</td>
<td>4.51</td>
<td>4.51</td>
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<td>--</td>
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<tr>
<td>Fugitive Emission</td>
<td>Lime Storage Bin Lime Bin Vent (UPC52)</td>
<td>particulate</td>
<td>0.22</td>
<td>0.22</td>
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<td>--</td>
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<tr>
<td>Fugitive Emission</td>
<td>Maltodextrin Filter Aid Storage Bins Filter Aid Bin Vents (MPC60): particulate</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<td></td>
</tr>
<tr>
<td>Fugitive Emission</td>
<td>Denaturant Tank #1 - Ethyl Acetate Internal Floating Roof</td>
<td>VOC</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<td>0.87</td>
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<tr>
<td>Fugitive Emission</td>
<td>Alcohol Loadout Flare (APC97)</td>
<td>VOC</td>
<td>--</td>
<td>--</td>
<td>--</td>
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</tr>
<tr>
<td>Fugitive Emission</td>
<td>Prefermenter Scrubber (APC28): for product recovery; Fermentation</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.02</td>
<td>0.07</td>
<td>0.07</td>
<td>0.01</td>
<td>0.90</td>
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<tr>
<td>Fugitive Emission</td>
<td>Germ Dryer</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.12</td>
<td>0.47</td>
<td>0.47</td>
<td>0.04</td>
<td>6.22</td>
</tr>
<tr>
<td>Fugitive Emission</td>
<td>Maltodextrin Drying System Scrubber &amp; WESP (MPC79 &amp; 80)</td>
<td>34.30</td>
<td>34.30</td>
<td>34.30</td>
<td>0.15</td>
<td>12.37</td>
<td>53.74</td>
<td>20.94</td>
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<tr>
<td>Fugitive Emission</td>
<td>Germ Dryer No. 2</td>
<td>Controlling Germ Dryer, Corn Gluten Feed Dryer, Gluten Dryer No. 1 and Thermal Oxidizers (FPC34a and FPC34b): Particulate, CO, VOC</td>
<td>10.99</td>
<td>49.84</td>
<td>49.84</td>
<td>12.18</td>
<td>12.18</td>
<td>49.84</td>
<td>27.58</td>
</tr>
</tbody>
</table>

**Emissions for the parts washer are based on the maximum allowed for an insignificant activity.**

**Limited PTE (ton/yr)**

**Revised T027-42694-00046**
Appendix A: Emission Calculations
Combustion Emissions from Spray Dryer (MP80)

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Summary of Combustion Emission Factors and Control Efficiencies used for calculations.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Heat Input Capacity (MMBtu/hr)</th>
<th>SO2 (lb/MMCF)</th>
<th>NOx (lb/MMCF)*</th>
<th>VOC (lb/MMCF)</th>
<th>CO (lb/MMCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltodextrin Spray Dryer (MP80)</td>
<td>57.6</td>
<td>0.60</td>
<td>50.0</td>
<td>*</td>
<td>84.7</td>
</tr>
<tr>
<td>Heat Content (MMBtu/MMCFC)</td>
<td>1020</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NG Emission Factors:

*Combustion VOC/PM2.5/PM10 emissions are included in with the process emissions calculations for the dryer.

**Low Nox burner system

SO2, Nox, and CO: Based on AP-42, Ch. 1.4, Table 1.4-1

Maltodextrin Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas Only</td>
<td>57.6</td>
<td>57.6</td>
</tr>
<tr>
<td></td>
<td>0.15</td>
<td>12.37</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>20.94</td>
</tr>
</tbody>
</table>

Methodology

Uncontrolled PTE (ton/yr) = Heat Capacity (MMBtu/hr) x Emission Factor (lb/MMCFC) x (8760 hr/yr) x (1 ton/2000 lb) / Heat Content (MMBtu/MMCFC)

Controlled PTE (ton/yr) = Uncontrolled PTE (ton/yr) x (1 - Control Efficiency)

*Combustion VOC/PM2.5/PM10 emissions are included in with the process emissions calculations for the dryer.

PM/PM10/PM2.5 emissions for the natural gas pilot are based on AP-42, Ch. 1.4 (1.9 lb/MMCFC for PM and 7.6 lb/MMCFC for PM10 and PM2.5).
Particulate and VOC Process Emissions from Dryer

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Appendix A: Emission Calculations

### Particulate Emissions (PM/PM10/PM2.5)

**Process and Combustion Emissions**

| Emissions Outlet/Control | Unit(s)                  | Temperature (°F) | Temperature (R) | Moisture Content (Bwo) | Air Flow (acfm) | Air Flow (dscfm) | Outlet Grain Loading (gr/dscf) | Primary Control Efficiency | Secondary Control Efficiency | Controlled PTE PM/PM10/PM2.5 (lb/hr) | Uncontrolled PTE PM/PM10/PM2.5 (lb/hr) | Limited PTE PM (lb/hr) | Limited PTE PM10/PM2.5 (lb/hr) |
|--------------------------|--------------------------|------------------|-----------------|------------------------|----------------|----------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|
| Scrubber MPC79 and WESP MPC89 Maltodextrin Dryer | 119                       | 579              | 10.60%          | 160,000                | 130,441        | 0.02           | 80%                         | 65.0%                         | 7.83                          | 34.28                         | 111.81                       | 489.71                       | 7.83                          | 34.30                         |

**Methodology**

\[ \text{dscfm} = \text{acfm} \times \left( \frac{528 \text{ R}}{\text{R}} \right) \times (1 - \text{Bwo}) \]

Controlled PM/PM10/PM2.5 PTE (lb/hr) = Outlet Grain Loading (gr/dscf) \times Air Flow (dscfm) \times (1 lb/7000 gr) \times (60 min/hr) \times (1 - Secondary Control Efficiency)

Uncontrolled PM/PM10/PM2.5 PTE (lb/hr) = Controlled PM/PM10/PM2.5 PTE (lb/hr) / (1 - Control Efficiency)

PTE (ton/yr) = PTE (lb/hr) \times (8760 hr/yr) \times (1 ton/2000 lb)

### VOC Emissions

**Process and Combustion Emissions**

<table>
<thead>
<tr>
<th>Emissions Outlet/Control</th>
<th>Unit(s)</th>
<th>VOC Emissions at Scrubber Outlet Based on Stack Test (lb/hr)</th>
<th>Control Efficiency</th>
<th>Uncontrolled PTE VOC (lb/hr)</th>
<th>Control Efficiency</th>
<th>Controlled PTE VOC (lb/hr)</th>
<th>Limited PTE VOC (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber MPC79</td>
<td>Maltodextrin Dryer</td>
<td>12.27</td>
<td>90%</td>
<td>122.70</td>
<td>53.74</td>
<td>12.27</td>
<td>53.74</td>
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</table>

**Methodology**

Uncontrolled PTE VOC (lb/hr) = VOC Stack Test Result

Controlled PTE VOC (lb/hr) = Uncontrolled PTE VOC (lb/hr) \times (1 - Control Efficiency)

PTE (ton/yr) = PTE (lb/hr) \times (8760 hr/yr) \times (1 ton/2000 lb)
Appendix A: Emission Calculations

#2 Maltodextrin Spray Dryer HAPS

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Heat Input Capacity (MMBtu/hr)</th>
<th>Potential Throughput (MMCF/yr)</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emissions (tons/yr)</th>
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<tbody>
<tr>
<td>#2 Maltodextrin Spray Dryer HAPS</td>
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<td>494.682</td>
<td>2.1E-03</td>
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<td>3.4E-03</td>
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<td>3.8E-04</td>
<td>2.1E-03</td>
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<td>1.8880</td>
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<tr>
<td>Maltodextrin Dryer MPC40</td>
<td>53.5</td>
<td>459.471</td>
<td>5.2E-04</td>
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<td>1.9E-02</td>
<td>0.45</td>
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<td>8.4E-04</td>
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<td>2.7E-04</td>
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<td>5.2E-04</td>
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<td>0.47</td>
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</tbody>
</table>

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.
The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF
Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1.020 MMBtu
Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)
Appendix A: Emission Calculations
Maltodextrin Transfer PC Receiver MP82

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Normal Operating Basis:

24 hours/day
7 days/week
52 weeks/year
8760 hours/year

Raw Materials:
35,500 lb/hr Maltodextrin

Products:
32,500 lb/hr Maltodextrin

Emission Control Data:

Control Equipment: Fabric Filter Baghouse

Air flow: 9,000 acfm (pneumatic transfer)
Filter Cloth Area 4,500 cu ft (using a 4:1 air to cloth ratio)

Emissions:

PM 0.004 grain/cuft discharge from baghouse
PM10 0.004 grain/cuft discharge from baghouse
PM2.5 37.63% of PM10 From particle size analyses of starch products in Muscatine
Collection Effy: 99% collection

PM = 9,000 cuft 0.004 grain 1 lb 60 min
8760 cuft 7000 grain 1 hr

PM = 0.31 lb/hr PM
PM10 = 0.31 lb/hr PM10
PM2.5 = 0.12 lb/hr PM2.5

PTE w/ Control Equipment:

= 0.31 lb 8760 hour 1 ton
8760 hour 1 ton

PM = 1.35 tpy TSP
PM10 = 1.35 tpy PM10
PM2.5 = 0.51 tpy PM2.5

PTE w/o Control Equipment

PM = 1.35 ton year 0.01 = 135.15 tpy TSP
PM10 = 1.35 ton year 0.01 = 135.15 tpy PM10
PM2.5 = 0.51 ton year 0.01 = 50.86 tpy PM2.5
Normal Operating Basis:

24 hours/day  
7 days/week  
52 weeks/year  
8760 hours/year

Raw Materials:

32,500 lb/hr Maltodextrin  
285 million lb/year maximum annual Maltodextrin production (Based on 100 % run time)

Products:

32,500 lb/hr Maltodextrin

Emission Control Data:

Control Equipment: Fabric Baghouse

Air flow: 9,000 acfm (pneumatic transfer)  
Filter Cloth Area 2,250 cu ft (4:1 air to cloth ratio)

Emissions:

PM 0.004 grain/cuft discharge from baghouse  
PM10 0.004 grain/cuft discharge from baghouse  
PM2.5 37.63% of PM10 From particle size analyses of starch products in Muscatine Collection Eff 99% collection

PM = 9,000 cuft x 0.004 grain/cuft discharge from baghouse x 7000 grain/lb x 60 min/hr

PM = 0.31 lb/hr TSP

PM10 = 0.31 lb/hr PM10

PM2.5 = 0.12 lb/hr PM2.5

PTE w/ Control Equipment:

PM = 0.31 lb/hr TSP x 8760 hour/year x 2000 lb/ton

PM = 1.35 tpy TSP

PM10 = 1.35 tpy PM10

PM2.5 = 0.51 tpy PM2.5

PTE w/o Control Equipment:

PM = 1.35 ton/year x 0.01

PM = 135.15 tpy TSP

PM10 = 1.35 ton/year x 0.01

PM10 = 135.15 tpy PM10

PM2.5 = 0.51 ton/year x 0.01

PM2.5 = 50.86 tpy PM2.5
Equip. #   FL-327-002/003/004/005

Normal Operating Basis:

<table>
<thead>
<tr>
<th>24 hours/day</th>
<th>7 days/week</th>
<th>52 weeks/year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8760 hours/year</td>
</tr>
</tbody>
</table>

Raw Materials:
- 32,500 lb/hr Maltodextrin from dryer
- 285 million lb/year annual Maltodextrin production capacity
- 142.500 ton/yr annual Maltodextrin production capacity

Products:
- 32,500 lb/hr Maltodextrin

Emission Control Data:

Control Equipment: Fabric Filter Baghouse (4 - 2 of 4 running at any given time)

Filter Cloth Area: 50 sq ft

Air flow: 120 acfm (air displaced from bin)

Emissions:

- PM = 0.004 grain/cuft discharge from baghouse
- PM10 = 0.004 grain/cuft discharge from baghouse (50% of TSP is PM10)
- PM2.5 = 37.63% of PM10 From particle size analyses of starch products in Muscatine

Collection Effy: 99% collection

\[
PM = \frac{120 \text{ cuft} \times 0.004 \text{ grain}}{\text{min} \times 7000 \text{ grain}} = \frac{1 \text{ lb}}{60 \text{ min}}
\]

\[
PM = 0.0041 \text{ lb/hr PM}
\]

\[
PM10 = 0.0041 \text{ lb/hr PM10}
\]

\[
PM2.5 = 0.0015 \text{ lb/hr PM2.5}
\]

PTE with Control Equipment:

\[
PM = \frac{0.00 \text{ lb}}{8760 \text{ hour}} = \frac{1 \text{ ton}}{2000 \text{ lb}}
\]

\[
PM = 0.018 \text{ tpy PM}
\]

\[
PM10 = 0.018 \text{ tpy PM10}
\]

\[
PM2.5 = 0.007 \text{ tpy PM2.5}
\]

PTE without Control Equipment:

\[
PM = \frac{0.018 \text{ ton}}{\text{year}} = 1.80 \text{ tpy PM}
\]

\[
PM10 = \frac{0.018 \text{ ton}}{\text{year}} = 1.80 \text{ tpy PM10}
\]

\[
PM2.5 = \frac{0.007 \text{ ton}}{\text{year}} = 0.68 \text{ tpy PM2.5}
\]
Appendix A: Emission Calculations
Maltodextrin Packaging System Dust Collector MP81

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Eqiup. # FL-331-001

Normal Operating Basis:

<table>
<thead>
<tr>
<th>8 hours/day</th>
<th>7 days/week</th>
<th>52 weeks/year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2920 hours/year</td>
</tr>
</tbody>
</table>

Raw Materials:
90,000 lb/hr Maltodextrin
285 million lb/year maximum annual Maltodextrin production (Based on 100% run time)

Products:
90,000 lb/hr Maltodextrin

Emission Control Data:

Control Equipment: Fabric Baghouse

Air flow: 11,000 acfm (pneumatic transfer)
Filter Cloth Area: 2,000 sq ft (using 4:1 air to cloth ratio)

Emissions:

PM10 0.004 grain/cuft discharge from baghouse
PM10 0.004 grain/cuft discharge from baghouse
PM2.5 37.63% of PM10 From particle size analyses of starch products in Muscatine
Collection Effy: 99% collection

$$\text{PM} = \frac{11,000 \text{ cuft} \times 0.004 \text{ grain}}{7000 \text{ grain/hr} \times 60 \text{ min}} = \frac{0.38 \text{ lb/hr PM}}{1 \text{ lb/ton}}$$
$$\text{PM10} = 0.38 \text{ lb/hr PM10}$$
$$\text{PM2.5} = 0.14 \text{ lb/hr PM2.5}$$

PTE w/ Control Equipment:

$$\text{PM} = \frac{0.38 \text{ lb/hr PM}}{8760 \text{ hours/yr}} = \frac{1.65 \text{ tpy TSP}}{2000 \text{ lb/ton}}$$
$$\text{PM10} = 1.65 \text{ tpy PM10}$$
$$\text{PM2.5} = 0.62 \text{ tpy PM2.5}$$

PTE w/o Control Equipment

$$\text{PM} = \frac{1.65 \text{ ton/year}}{0.01} = 165.19 \text{ tpy TSP}$$
$$\text{PM10} = \frac{1.65 \text{ ton/year}}{0.01} = 165.19 \text{ tpy PM10}$$
$$\text{PM2.5} = \frac{0.62 \text{ ton/year}}{0.01} = 62.16 \text{ tpy PM2.5}$$
Appendix A: Emission Calculations
Filter Aid Baghouses (2 bins w/ baghouses) MP60

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Normal Operating Basis:
Batch pneumatic transfer from bulk truck
- 8 hours/day
- 2 days/week
- 52 weeks/year
- 832 hours/year

Raw Materials:
- 50,000 lb/hr Filter Aid
- 42 mm lb/year Filter Aid maximum usage
- 20,800 tpy Filter Aid Maximum usage

Products:
- 50,000 lb/hr Filter Aid

Emission Control Data:
Control Equipment: Fabric Baghouse

Air flow: 600 acfm (pneumatic transfer)

Emissions:

PM = 0.005 grain/cuft discharge from baghouse
PM10 = 0.005 grain/cuft discharge from baghouse (50% of TSP is PM10)
PM2.5 = 17.00% of PM10
Collection Effy = 99% collection

PM = \frac{600 \text{ cuft} \times 0.005 \text{ grain}}{1 \text{ lb} \times 60 \text{ min}}
PM = 0.03 \text{ lb/hr TSP}
PM10 = 0.03 \text{ lb/hr PM10}
PM2.5 = 0.005 \text{ lb/hr PM2.5}

PTE w/ Control Equipment:

\text{PM} = \frac{0.03 \text{ lb/hr} \times 8760 \text{ hour}}{1 \text{ ton} \times 2000 \text{ lb}}
\text{PM} = 0.13 \text{ tpy TSP}
\text{PM10} = 0.13 \text{ tpy PM10}
\text{PM2.5} = 0.02 \text{ tpy PM2.5}

PTE w/o Control Equipment

\text{PM} = \frac{0.13 \text{ tpy} \times 0.01 \text{ year}}{1 \text{ year} \times 0.01 \text{ year}}
\text{PM} = 13.14 \text{ tpy TSP}
\text{PM10} = 13.14 \text{ tpy PM10}
\text{PM2.5} = 2.23 \text{ tpy PM2.5}

Limited PTE (ton/yr)

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
</tr>
</tbody>
</table>
Appendix A: Emission Calculations
Maltodextrin Carbon Baghouse MP61

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Normal Operating Basis:

Batch pneumatic transfer from bulk truck
8 hours/day
2 days/week
52 weeks/year
834 hours/year

Raw Materials:
50,000 lb/hr Carbon
42 million lb/year maximum powdered carbon usage
20,857 ton/year maximum powdered carbon usage

Products:
50,000 lb/hr Carbon

Emission Control Data:

Control Equipment: Fabric Baghouse
Air flow: 600 acfm (pneumatic transfer)

Emissions:

PM 0.005 grain/cuft discharge from baghouse
PM10 0.005 grain/cuft discharge from baghouse (50% of TSP is PM10)
PM2.5 17.00% of PM10
Collection Effy: 99% collection

PM = \[
\frac{600 \text{ cuft} \times 0.005 \text{ grain}}{1 \text{ lb} \times 60 \text{ min}} = 7000 \text{ grain/hr} \]

PM = 0.03 lb/hr TSP
PM10 = 0.03 lb/hr PM10
PM2.5 = 0.01 lb/hr PM2.5

PTE w/ Control Equipment:

PM = \[
\frac{0.03 \text{ lb/hr} \times 8760 \text{ hour}}{1 \text{ ton} \times 2000 \text{ lb}} = 0.13 \text{ ton} \text{ yr} \]

PM10 = 0.13 tpy PM10
PM2.5 = 0.02 tpy PM2.5

PTE w/o Control Equipment

PM = \[
\frac{0.13 \text{ ton}}{0.01 \text{ year}} = 13.14 \text{ tpy TSP} \]

PM10 = 0.13 tpy PM10
PM2.5 = 0.02 tpy PM2.5

Limited PTE (ton/yr)

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
</tr>
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</table>
Appendix A: Emission Calculations

Scrubbers: FPC06, FPC07, FPC27

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

FPC06 (Steep Area Scrubber), FPC07 (Mill Area Scrubber), FPC27 (Feed Area Scrubber)

Scrubber Specifications

<table>
<thead>
<tr>
<th>Scrubber</th>
<th>°F</th>
<th>°R</th>
<th>B_w</th>
<th>acfm</th>
<th>dscfm</th>
<th>Particulate (gr/acf)</th>
<th>Particulate (gr/dscfm)</th>
<th>% Control Particulate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC06</td>
<td>120</td>
<td>580</td>
<td>11.50%</td>
<td>5100</td>
<td>4,109</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>FPC07</td>
<td>120</td>
<td>580</td>
<td>11.50%</td>
<td>20100</td>
<td>16,194</td>
<td>0.014</td>
<td>0.017</td>
<td>90%</td>
</tr>
<tr>
<td>FPC27</td>
<td>120</td>
<td>580</td>
<td>11.50%</td>
<td>30000</td>
<td>24,170</td>
<td>0.014</td>
<td>0.017</td>
<td>90%</td>
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</table>

PM/PM10/PM2.5 PTE

<table>
<thead>
<tr>
<th>Scrubber</th>
<th>Controlled PTE</th>
<th>Uncontrolled PTE</th>
<th>Limited PTE PM and PM10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/hr</td>
<td>tpy</td>
<td>lb/hr</td>
</tr>
<tr>
<td>FPC07</td>
<td>2.41</td>
<td>10.56</td>
<td>24.12</td>
</tr>
<tr>
<td>FPC27</td>
<td>3.60</td>
<td>15.77</td>
<td>36.00</td>
</tr>
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</table>

SO2 PTE

Note: SO2 is added at the steeping processes and is emitted at the steeping, milling and feedhouse operations at the following rates:

SO2 added to process (lb/hr) 470

<table>
<thead>
<tr>
<th>Scrubber</th>
<th>SO2 (lb/hr)</th>
<th>SO2 (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPC06</td>
<td>47.00</td>
<td>205.86</td>
</tr>
<tr>
<td>FPC07</td>
<td>47.00</td>
<td>205.86</td>
</tr>
<tr>
<td>FPC27</td>
<td>75.20</td>
<td>329.38</td>
</tr>
</tbody>
</table>

Controlled SO2 (lb/hr) = SO2 added to process (lb/hr) * SO2 emitted from process

<table>
<thead>
<tr>
<th>Scrubber</th>
<th>Uncontrolled PTE</th>
<th>Controlled PTE</th>
<th>Limited PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2</td>
<td>(lb/hr)</td>
<td>(tpy)</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>FPC06</td>
<td>47.00</td>
<td>205.86</td>
<td>4.70</td>
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<tr>
<td>FPC07</td>
<td>47.00</td>
<td>205.86</td>
<td>4.70</td>
</tr>
<tr>
<td>FPC27</td>
<td>75.20</td>
<td>329.38</td>
<td>7.52</td>
</tr>
</tbody>
</table>

Methodology

dscfm = acfm * (528 °R/°R) * (1-B_w/100)
gr/dscf = gr/acf * (acfm/dscfm)

Controlled PM/PM10/PM2.5 PTE (lb/hr) = gr/dscf * dscfm * (60 min/hr) * (1 lb/7000 gr)
Uncontrolled PM/PM10/PM2.5 PTE (lb/hr) = Controlled PTE / (1 - Control Efficiency)
Uncontrolled SO2 PTE (lb/hr) = SO2 added to process (lb/hr) * SO2 emitted from process
Controlled SO2 PTE (lb/hr) = Uncontrolled PTE * (1 - Control Efficiency)
PM/PM10/PM2.5/SO2 PTE (tpy) = PM/PM10/PM2.5/SO2 (lb/hr) * 8760 hr/yr * 1 ton/2000 lb
## Appendix A: Emission Calculations

### Particulate Emissions from Baghouses, Cyclones, and Bin Vents

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

### Table: Emission Calculations

<table>
<thead>
<tr>
<th>Stack ID</th>
<th>Control ID</th>
<th>Description of Control</th>
<th>Emission Unit</th>
<th>Flow Rate (acfm)</th>
<th>PM Outlet Loading (gr/acf)</th>
<th>PM10 Outlet Loading (gr/acf)</th>
<th>Control Efficiency</th>
<th>PM2.5:PM10 Ratio</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>Controlled PTE (ton/yr)</th>
<th>Limited PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP01</td>
<td>CPC01</td>
<td>Grain Unloading Baghouse</td>
<td>Truck and Railcar Corn Unloading Process</td>
<td>30,000</td>
<td>0.004</td>
<td>0.004</td>
<td>99.00%</td>
<td>0.1666667</td>
<td>450.51</td>
<td>450.51</td>
<td>75.09</td>
</tr>
<tr>
<td>FP05</td>
<td>FPC05</td>
<td>Corn Receiving Transfer Dust Collector</td>
<td>Corn Storage System and Corn Cleaning Process</td>
<td>4,000</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1666667</td>
<td>75.09</td>
<td>75.09</td>
<td>12.51</td>
</tr>
<tr>
<td>FP10</td>
<td>FPC10</td>
<td>Germ Transport Baghouse</td>
<td>Germ Transport System</td>
<td>2,500</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1705882</td>
<td>46.93</td>
<td>46.93</td>
<td>8.01</td>
</tr>
<tr>
<td>FP11</td>
<td>FPC11</td>
<td>Germ Storage Bin Vent</td>
<td>Germ Storage Bin</td>
<td>100</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>1.88</td>
<td>1.88</td>
<td>0.33</td>
</tr>
<tr>
<td>FP14</td>
<td>FPC14</td>
<td>Gluten Transport Baghouse</td>
<td>Gluten Transport System</td>
<td>10,000</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1705882</td>
<td>187.71</td>
<td>187.71</td>
<td>32.02</td>
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<tr>
<td>FP15</td>
<td>FPC15</td>
<td>Gluten Storage Bin Vent</td>
<td>Gluten Storage System</td>
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<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>1.88</td>
<td>1.88</td>
<td>0.33</td>
</tr>
<tr>
<td>FP18</td>
<td>FPC18</td>
<td>Fiber Cooling Baghouse</td>
<td>CGF Transport System</td>
<td>37,500</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1709091</td>
<td>703.93</td>
<td>703.93</td>
<td>120.31</td>
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<td>FP19</td>
<td>FPC19</td>
<td>Cage Mill Baghouse</td>
<td>CGF Final Mill System</td>
<td>4,500</td>
<td>0.005</td>
<td>0.005</td>
<td>99.90%</td>
<td>0.1705882</td>
<td>844.71</td>
<td>844.71</td>
<td>144.00</td>
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<tr>
<td>FP20</td>
<td>FPC20</td>
<td>Corn Cleaning Transfer Baghouse</td>
<td>Corn Storage Process Supplemental Corn Gluten Feed System</td>
<td>2,000</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1705882</td>
<td>37.54</td>
<td>37.54</td>
<td>6.40</td>
</tr>
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<td>FP22</td>
<td>FPC22</td>
<td>CGF Fiber Storage Bin Vent</td>
<td>CGF Storage System</td>
<td>100</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>1.88</td>
<td>1.88</td>
<td>0.33</td>
</tr>
<tr>
<td>FP25</td>
<td>FPC25</td>
<td>Pellet Storage Bin Vent</td>
<td>Pellet Storage Bin</td>
<td>100</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>1.88</td>
<td>1.88</td>
<td>0.33</td>
</tr>
<tr>
<td>FP26</td>
<td>FPC26</td>
<td>Truck Loadout Baghouse</td>
<td>Germ, Gluten, Corn Gluten Feed, and Corn Gluten Feed Pellet Loadout System</td>
<td>35,000</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1689655</td>
<td>657.00</td>
<td>657.00</td>
<td>111.01</td>
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<tr>
<td>FP28</td>
<td>FPC28</td>
<td>Germ/Gluten Transfer Baghouse</td>
<td>Germ, Gluten, Corn Gluten Feed and Corn Gluten Feed Pellet Loadout Transfer Conveyor System</td>
<td>3,650</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1689655</td>
<td>68.52</td>
<td>68.52</td>
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<td>MP41</td>
<td>MPC41</td>
<td>Maltodextrin Packaging Dust Collector</td>
<td>Maltodextrin Loadout System</td>
<td>8,000</td>
<td>0.005</td>
<td>0.005</td>
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<td>MP42</td>
<td>MPC42</td>
<td>Maltodextrin Transfer Baghouse</td>
<td>Maltodextrin Transfer Conveyor System</td>
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<td>0.005</td>
<td>99.00%</td>
<td>0.3763</td>
<td>150.17</td>
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<td>MP44</td>
<td>MPC44</td>
<td>Maltodextrin Product Bins Bin Vent</td>
<td>Maltodextrin Storage System (2 of 4 running at any given time)</td>
<td>120</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.3763</td>
<td>2.25</td>
<td>2.25</td>
<td>0.85</td>
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<td>SP44a</td>
<td>SPC44a</td>
<td>Starch Loadout Receiver Baghouse</td>
<td>Starch Loadout System</td>
<td>3,600</td>
<td>0.005</td>
<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>67.58</td>
<td>67.58</td>
<td>11.80</td>
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<tr>
<td>SP44b</td>
<td>SPC44b</td>
<td>Starch Loadout Dust Collector (fugitive particulate)</td>
<td>Starch Loadout Dust</td>
<td>6,750</td>
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<td>0.005</td>
<td>99.00%</td>
<td>0.1746032</td>
<td>126.71</td>
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<td>SP50</td>
<td>SPC50</td>
<td>Starch Product Blending Bin Vents</td>
<td>Starch Storage System (2 of 4 running at any given time)</td>
<td>2,000</td>
<td>0.02</td>
<td>0.01</td>
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<td>0.1746032</td>
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<td>Soda Ash Bin Vent</td>
<td>Starch Reactor Dry Soda Ash Feed System</td>
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<td>0.02</td>
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<td>0.1746032</td>
<td>150.17</td>
<td>75.09</td>
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<td>UPC52</td>
<td>Lime Bin Vent</td>
<td>Lime Storage Bin</td>
<td>1,200</td>
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<td>0.1746032</td>
<td>22.53</td>
<td>22.53</td>
<td>3.93</td>
</tr>
</tbody>
</table>

### Methodology

PM2.5:PM10 Ratios from AP-42, Table 9.9.1-1

Uncontrolled PTE PM10 (ton/yr) = Flow Rate (acfm) x PM10 Outlet Grain Loading (gr/acf) x (60 min/hr) x (8760 hr/yr) x (1 lb/7000 gr) x (1 ton/2000 lb) x (1 - PM10 Control Efficiency)

Uncontrolled PTE PM2.5 (ton/yr) = Uncontrolled PTE PM10 x PM2.5:PM10 ratio

Controlled PTE (ton/yr) = Uncontrolled PTE x (1 - Control Efficiency)

## Represents permitted emission limits:

PM2.5 emissions are not specifically limited. However, PM and PM10 emissions are limited and a control device is required to meet the emission limits. PM2.5 emissions are assumed to equal PM10 emissions for purposes of this table.
Summary of Combustion Emission Factors and Control Efficiencies used for calculations.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Natural Gas Emission Factors</th>
<th>Control Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heat Input Capacity (MMBtu/hr)</td>
<td>SO2 (lb/MMCF)</td>
</tr>
<tr>
<td>Starch Dryer</td>
<td>31</td>
<td>0.60</td>
</tr>
</tbody>
</table>

NG Emission Factors:
- SO2: Based on permitted limits or from AP-42, Ch. 1.4, Table 1.4-2.
- NOx: Based on permitted limits.
- VOC: *Combustion VOC emissions are included in with the process emissions calculations for the dryers.

Represented Limited Emission Rates.

Starch Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SO2</td>
<td>NOx</td>
</tr>
<tr>
<td>Natural Gas Only</td>
<td>31</td>
<td>31</td>
<td>0</td>
<td>0.08</td>
<td>10.18</td>
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</table>
**Appendix A: Emission Calculations**

**APC30 (Fermentation System RTO)**

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

### Scrubber ID Process

<table>
<thead>
<tr>
<th>Scrubber ID</th>
<th>Process</th>
<th>Inlet VOC Emissions (lb/hr)</th>
<th>Uncontrolled PTE VOC (ton/yr)</th>
<th>RTO Control Efficiency</th>
<th>RTO-Controlled VOC PTE (lb/hr)</th>
<th>RTO-Controlled VOC PTE (ton/yr)</th>
<th>Limited VOC PTE (lb/hr)</th>
<th>Limited VOC PTE (ton/yr)</th>
<th>Uncontrolled PTE SO2 (ton/yr)</th>
<th>Limited SO2 PTE (lb/hr)</th>
<th>Limited SO2 PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>APC38</td>
<td>Pre-Fermenters</td>
<td>163.98</td>
<td>718.23</td>
<td>98.00%</td>
<td>3.28</td>
<td>14.36</td>
<td>9.13</td>
<td>39.99</td>
<td>0.0019</td>
<td>8.43E-03</td>
<td>0.0024</td>
</tr>
<tr>
<td>APC29</td>
<td>Fermenter Scrubber (AP29)</td>
<td>38.042</td>
<td>166.62</td>
<td>98.00%</td>
<td>0.76</td>
<td>3.33</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>--</td>
<td>Degasification Scrubber (AP34)</td>
<td>123.00</td>
<td>538.74</td>
<td>98.00%</td>
<td>2.46</td>
<td>10.77</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>APC30</td>
<td>Distillation Vent Condensers</td>
<td>35.00</td>
<td>153.30</td>
<td>98.00%</td>
<td>0.70</td>
<td>3.07</td>
<td>0.0095</td>
<td>0.04</td>
<td>0.0118</td>
<td>0.07</td>
<td>-</td>
</tr>
<tr>
<td>--</td>
<td>Beverage Grade Tank Vents</td>
<td>8.00</td>
<td>35.04</td>
<td>98.00%</td>
<td>0.16</td>
<td>0.70</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>166.00</td>
<td>727.08</td>
<td>2.94</td>
<td>3.32</td>
<td>14.54</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Methodology**

- Inlet VOC Emissions (lb/hr) are based on the highest testing run performed in December of 2010. The test runs were conducted while producing 14% alcohol drop. The fermentation system is capable of producing up to 17% alcohol. The SO2 test run was conducted in June of 2016.
  
  - RTO-Controlled VOC PTE (lb/hr) = Inlet VOC Emissions (lb/hr) x (1 - RTO Control Efficiency)
  
  - RTO-Controlled VOC PTE (ton/yr) = RTO-Controlled VOC PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
  
  - Conservative Factor = 1.25 to account for any variability, such as an increase in the percent alcohol in the fermentation drops.

- Limited VOC PTE (lb/hr) = Inlet VOC Emissions (lb/hr) x Conservative Factor

- Limited VOC PTE (ton/yr) = Limited VOC PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

- Uncontrolled SO2 PTE (ton/yr) = Inlet SO2 Emissions (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

- Limited SO2 PTE (lb/hr) = Inlet SO2 Emissions (lb/hr) x (1 - Control Efficiency)

- Limited SO2 PTE (ton/yr) = Limited SO2 PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

- Note: The Fermentation System is controlled by a scrubber (APC29) and RTO (APC30) with an overall control efficiency of 98%.

### Process HAPs from APC30

**HAP Control:** 98%

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Uncontrolled Emissions</th>
<th>Controlled Emissions</th>
<th>Limited Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
<td>(tpy)</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>Methanol</td>
<td>0.0096</td>
<td>0.04</td>
<td>0.0002</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.09</td>
<td>22.29</td>
<td>0.102</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>5.10</td>
<td>22.34</td>
<td>0.102</td>
</tr>
</tbody>
</table>

**Methodology**

- Uncontrolled Emissions (lb/hr) as provided by the source.
- Controlled Emissions (lb/hr) = Uncontrolled Emissions (lb/hr) x (1 - Control Efficiency)
- Emissions (tpy) = Emissions (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

*Portion of Methanol in AP30 resulting from AP34 only
Appendix A: Emission Calculations

MR Scrubber (APC40)

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

APC40 (MR Scrubber)

<table>
<thead>
<tr>
<th></th>
<th>APC40</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 and Air scrubbed (lb/hr)</td>
<td>1,512</td>
</tr>
<tr>
<td>VOC content (%)</td>
<td>0.15%</td>
</tr>
<tr>
<td>Scrubber EtOH removal (%)</td>
<td>98%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Uncontrolled VOC (EtOH)</th>
<th>Controlled VOC (EtOH)</th>
<th>Limited PTE VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
<td>(tpy)</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>APC40</td>
<td>2.27</td>
<td>9.93</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Methodology

Uncontrolled VOC PTE (lb/hr) = CO2 and Air Scrubbed (lb/hr) * VOC Content (%)

Controlled VOC PTE (lb/hr) = Uncontrolled VOC PTE (lb/hr) * (1 - Control Efficiency)

PTE (ton/yr) = PTE (lb/hr) * (8760 hr/yr) * (1 ton/2000 lb)
Appendix A: Emission Calculations
Vacuum Degasification Column (Scrubber APC34)

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Raw Materials:
500,000 lb/hr Beer Still feed

Products:
63,000 lb/hr Dilute Alcohol
437,000 lb/hr Stillage
83 mm gals finished Alcohol produced annually

Control Equipment: Caustic Scrubber APC34
Air flow: 150 acfm
VOC/HAP Control: 98%
SO2 Control: 90%

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Uncontrolled Emissions</th>
<th>Controlled Emissions</th>
<th>Limited Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
<td>(tpy)</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>VOC</td>
<td>123.00</td>
<td>538.74</td>
<td>**</td>
</tr>
<tr>
<td>SO2</td>
<td>63.00</td>
<td>275.94</td>
<td>6.30</td>
</tr>
<tr>
<td>Methanol</td>
<td>0.0096</td>
<td>0.04</td>
<td>**</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>5.09</td>
<td>22.29</td>
<td>**</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>5.10</td>
<td>22.34</td>
<td></td>
</tr>
</tbody>
</table>

Methodology
Uncontrolled Emissions (lb/hr) as provided by the source.
Controlled Emissions (lb/hr) = Uncontrolled Emissions (lb/hr) x (1 - Control Efficiency)
Emissions (tpy) = Emissions (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
**Controlled by Alcohol RTO (APC30)
Appendix A: Emission Calculations

Alcohol Storage Systems

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Alcohol Storage System - Beverage and Alcohol Storage System - Fuel (Flare APC97)

<table>
<thead>
<tr>
<th>System</th>
<th>Control</th>
<th>VOC Emissions from Alcohol Storage Tanks (lb/hr)</th>
<th>Uncontrolled VOC PTE (ton/yr)</th>
<th>Control Efficiency</th>
<th>Controlled VOC PTE (lb/hr)</th>
<th>Limited VOC PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Alcohol Storage</td>
<td>APC97</td>
<td>3.78</td>
<td>16.56</td>
<td>98%</td>
<td>0.08</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Methodology

- VOC PTE (lb/hr) - Controlled = VOC Emissions from Alcohol Storage Tanks (lb/hr) x (1-control efficiency)
- VOC PTE (tpy) - Controlled = VOC PTE (lb/hr) * 8760 hr/yr * 1 ton/2000 lb

The Fuel Alcohol Storage System emissions are routed to the Alcohol Loadout Flare (APC97).
Appendix A: Emission Calculations

Flash Cooling System (Intercondenser Scrubber APC31)

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

APC31 (Intercondenser Scrubber)

Starch Slurry to cooking system (lb/hr) 507,600
SO2 contained in liquefied starch stream (ppm) 105
SO2 emitted from process 10%
Condenser SO2 removal (%) 90%

<table>
<thead>
<tr>
<th>Control</th>
<th>Uncontrolled SO2 Emissions (lb/hr)</th>
<th>Uncontrolled SO2 Emissions (tpy)</th>
<th>Controlled SO2 Emissions (lb/hr)</th>
<th>Controlled SO2 Emissions (tpy)</th>
<th>Limited SO2 Emissions (lb/hr)</th>
<th>Limited SO2 Emissions (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>APC31</td>
<td>5.33</td>
<td>23.34</td>
<td>0.53</td>
<td>2.33</td>
<td>0.53</td>
<td>2.32</td>
</tr>
</tbody>
</table>

Methodology

Uncontrolled SO2 Emissions (lb/hr) = Starch Slurry to cooking system (lb/hr) x (105 lb SO2/1,000,000 lb starch stream) x % SO2 emitted from process

Controlled SO2 Emissions (lb/hr) = Uncontrolled SO2 Emissions (lb/hr) x (1 - SO2 Removal Efficiency)

Emissions (tpy) = Emissions (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
## Appendix A: Emission Calculations
### Natural Gas Combustion (less than 100 MMBtu/hr)

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

### Criteria Pollutants

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMCF</th>
<th>PM*</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>NOx**</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTO (APC30)</td>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.6</td>
<td>100.0</td>
<td>5.5</td>
<td>84.0</td>
</tr>
<tr>
<td>Boiler</td>
<td>2.1</td>
<td>18.035</td>
<td>0.017</td>
<td>0.069</td>
<td>0.069</td>
<td>0.005</td>
<td>0.902</td>
</tr>
<tr>
<td>Space Heaters***</td>
<td>10</td>
<td>85.882</td>
<td>0.082</td>
<td>0.326</td>
<td>0.326</td>
<td>0.026</td>
<td>4.294</td>
</tr>
</tbody>
</table>

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: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32  
***The exact heat capacity of the space heaters is not known.

### HAPs - Organics

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMCF</th>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTO (APC30)</td>
<td>2.1E-03</td>
<td>1.2E-03</td>
<td>7.5E-02</td>
<td>1.8E+00</td>
<td>3.4E-03</td>
<td>5.0E-04</td>
<td>1.1E-03</td>
<td>1.4E-03</td>
<td>3.8E-04</td>
<td>2.1E-03</td>
<td>1.8880</td>
</tr>
<tr>
<td>Boiler</td>
<td>2.1E-05</td>
<td>4.1E-05</td>
<td>2.6E-03</td>
<td>6.2E-02</td>
<td>1.2E-04</td>
<td>1.7E-05</td>
<td>3.8E-05</td>
<td>4.8E-05</td>
<td>1.3E-05</td>
<td>7.2E-05</td>
<td>6.5E-02</td>
</tr>
<tr>
<td>Space Heaters***</td>
<td>9.0E-05</td>
<td>5.2E-05</td>
<td>3.2E-03</td>
<td>7.7E-02</td>
<td>1.5E-04</td>
<td>2.1E-05</td>
<td>4.7E-05</td>
<td>6.0E-05</td>
<td>1.6E-05</td>
<td>9.0E-05</td>
<td>8.1E-02</td>
</tr>
</tbody>
</table>

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.  
The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

### Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF  
Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu  
Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)
Appendix A: Emission Calculations

Starch Reactor Vent

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

SP46 - Starch Reactor Vent

Air Flow 670 cuft of head space in vessel to vent
capacity of vessel (cuft) 87100
EtOH content (ppm) 50
Density of Vapor (lb/cuft) 0.07
Time to fill Reactor (hrs) 9.8
Reactor Fills per day 2.45
Control Efficiency 0%

EtOH (lb/cuft) = \[ \frac{0.07 \text{ lb}}{\text{cuft}} \times 50 \text{ lb EtOH/(1,000,000 lb vapor)} \] = 0.0000035 lb EtOH/cuft
EtOH (lb/fill) = EtOH (lb/cuft) x (capacity of reactor - headroom) = 0.303 lb/fill
EtOH lb/day = lb/fill x fill/day = 0.741 lb/day
EtOH tpy = lb/day x 365 days/yr x 1/2000 lb/ton = 0.135 tpy

Limited VOC Emissions: 1.0 lb per ten (10) hour period.
= 1.0 lb / 10 hr x (8760 hr/yr) x (1 ton/2000 lb)
= 0.438 tpy
Appendix A: Emission Calculations

Biogas Flare

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

1. PTE H2S

<table>
<thead>
<tr>
<th>H2S Concentration prior to Scrubber</th>
<th>5500 ppmv</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW H2S</td>
<td>34.08</td>
</tr>
<tr>
<td>MW SO2</td>
<td>64.06</td>
</tr>
</tbody>
</table>

Scrubber Control 90%

H2S Controlled Concentration 550 ppmv

H2S PTE = (5500 mole H2S/1E+06 mole Biogas) x (34.08 g H2S/mol H2S) x (1 lb H2S/453.59 g H2S) x (1 mole Biogas/24.0 liter Biogas) x (28.31 liter/cuft) x (50,000 cf biogas/hr)

H2S PTE = 24.37 lb/hr uncontrolled

2. Scrubbed Biogas Combustion Emission Factor

H2S Combustion Reaction

2 H2S + 3 O2 → 2 SO2 + 2 H2O

MW H2S = 34.08

SO2 (lb/MMCF) = (550 cf H2S/1E+06 cf Biogas) x (2 mol SO2/2 mole H2S) x (64.06 g SO2/mol SO2) x (1 lb/453.59 g) x (1 mole Biogas/24.0 liter) x (28.31 liter/cf)

SO2 Emission Factor

= 9.163E-05 lb SO2/cf

or

= 91.63 lb SO2/MMCF

CO Emission Factor

CO emission factor from RBLC IA-0088, issued 6/29/2007, this emission factor has not been tested yet.

= 0.2 lb CO/MMBtu

3. Flare UPC54

Biogas heat of combustion  600 Btu/cf
Flow Rate (acf/hr)  50,000
Heating Rate @ 50,000 cuft/hr  30 MMBtu/hr (600 Btu/hr x 50,000 scf/hr x 1 MMBtu/1,000,000 Btu)

<table>
<thead>
<tr>
<th>AP-42 Emission Factor (lb/MMBTU)</th>
<th>NOx</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions (lb/hr)</td>
<td>2.04</td>
<td>1.89</td>
</tr>
<tr>
<td>Emissions (tpy)</td>
<td>8.94</td>
<td>8.28</td>
</tr>
</tbody>
</table>

NOx and VOC EF’s from AP-42, Ch. 13.5. VOC EF based on Total Hydrocarbon EF and Biogas containing 55% methane.

TSP Emissions = 0 for a non-smoking flare

SO2 Emissions = 50,000 acf/hr x 9.163 E-05 lb SO2/acf biogas

= 456 lb/hr

= 20.07 tpy

CO Emissions = 30 MMBtu/hr x 0.2 lb/MMBtu

= 6.00 lb/hr

= 26.28 tpy
Appendix A: Emission Calculations

Particulate, SO2, and VOC Process Emissions from Dryers

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

### Particulate Emissions (PM/PM10/PM2.5)

#### Process and Combustion Emissions

<table>
<thead>
<tr>
<th>Emissions Outlet/Control</th>
<th>Unit(s)</th>
<th>Temperature (°F)</th>
<th>Temperature (R)</th>
<th>Moisture Content (Bwo)</th>
<th>Air Flow (acfm)</th>
<th>Air Flow (dscfm)</th>
<th>Outlet Grain Loading (gr/dscf)</th>
<th>Primary Control Efficiency</th>
<th>Secondary Control Efficiency</th>
<th>Controlled PTE PM/PM10/PM2.5 (lb/hr)</th>
<th>Uncontrolled PTE PM/PM10/PM2.5 (lb/hr)</th>
<th>Limited PTE PM</th>
<th>Limited PTE PM10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber SPC49</td>
<td>Starch Dryer</td>
<td>140</td>
<td>600</td>
<td>19.82%</td>
<td>89,000</td>
<td>82,954</td>
<td>0.0092</td>
<td>90%</td>
<td>0%</td>
<td>4.96</td>
<td>21.74</td>
<td>49.64</td>
<td>217.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120</td>
<td>580</td>
<td>11.50%</td>
<td>156,000</td>
<td>127,294</td>
<td>0.02</td>
<td>80%</td>
<td>65.0%</td>
<td>7.64</td>
<td>33.46</td>
<td>478.27</td>
<td>217.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>261</td>
<td>721</td>
<td>21.00%</td>
<td>114705</td>
<td>66,360</td>
<td>0.01</td>
<td>95%</td>
<td>95%</td>
<td>5.69</td>
<td>24.91</td>
<td>113.76</td>
<td>498.27</td>
</tr>
<tr>
<td>Scrubber MPC39 and MPC40</td>
<td>Maltodextrin Dryer</td>
<td>120</td>
<td>580</td>
<td>11.50%</td>
<td>156,000</td>
<td>127,294</td>
<td>0.02</td>
<td>80%</td>
<td>65.0%</td>
<td>7.64</td>
<td>33.46</td>
<td>478.27</td>
<td>217.44</td>
</tr>
<tr>
<td></td>
<td>Germ Dryer, CGF Dryer</td>
<td>281</td>
<td>721</td>
<td>21.00%</td>
<td>114705</td>
<td>66,360</td>
<td>0.01</td>
<td>95%</td>
<td>95%</td>
<td>5.69</td>
<td>24.91</td>
<td>113.76</td>
<td>498.27</td>
</tr>
</tbody>
</table>

#### Methodology

- \( dsfcm = acfm \times (528 R / R) \times (1 - Bwo) \)
- \( \text{Controlled PM/PM10/PM2.5 PTE (lb/hr)} = \text{Outlet Grain Loading (gr/dscf)} \times \text{Air Flow (dscfm)} \times \left( \frac{1 \text{ lb}}{7000 \text{ gr}} \right) \times (60 \text{ min/hr}) \times (1 - \text{Secondary Control Efficiency}) \)
- \( \text{Uncontrolled PM/PM10/PM2.5 PTE (lb/hr)} = \frac{\text{Controlled PM/PM10/PM2.5 PTE (lb/hr)}}{\text{1 - Control Efficiency}} \)
- \( \text{PTE (ton/yr)} = \text{PTE (lb/hr)} \times (8760 \text{ hr/yr}) \times \left( \frac{1 \text{ ton}}{2000 \text{ lb}} \right) \)
- Note: Based on testing, the PM emission limit is achievable for the RTO systems.

### SO2 Emissions

#### Process Emissions

<table>
<thead>
<tr>
<th>Emissions Outlet/Control</th>
<th>Unit(s)</th>
<th>SO2 Added to the Process (lb/hr)</th>
<th>SO2 Emitted from Process</th>
<th>Control Efficiency</th>
<th>Uncontrolled PTE SO2 (lb/hr)</th>
<th>Controlled PTE SO2 (lb/hr)</th>
<th>Limited PTE SO2 NG Combustion (lb/hr)</th>
<th>Limited PTE SO2 Biogas/NG Combustion (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC12</td>
<td>Germ Dryer</td>
<td>470</td>
<td>6%</td>
<td>90%</td>
<td>28.20</td>
<td>123.52</td>
<td>8.69</td>
<td>8.69</td>
</tr>
<tr>
<td>Scrubber FPC16</td>
<td>CGF Dryer</td>
<td>470</td>
<td>18%</td>
<td>90%</td>
<td>75.20</td>
<td>329.38</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scrubber FPC13</td>
<td>Gluten Dryers #1 and #2</td>
<td>470</td>
<td>18%</td>
<td>90%</td>
<td>84.60</td>
<td>370.55</td>
<td>2.78</td>
<td>2.78</td>
</tr>
</tbody>
</table>

#### Methodology

- \( \text{PTE (ton/yr)} = \frac{\text{SO2 Added to the Process (lb/hr)}}{\text{1 - Control Efficiency}} \) * (1 ton/2000 lb)
- Note: Based on testing, the SO2 emission limits are achievable for the dryers.

### VOC Emissions

#### Process and Combustion Emissions

<table>
<thead>
<tr>
<th>Emissions Outlet/Control</th>
<th>Unit(s)</th>
<th>VOC Emissions at Scrubber Outlet Based on Stack Test (lb/hr)</th>
<th>Control Efficiency</th>
<th>Uncontrolled PTE VOC (lb/hr)</th>
<th>Controlled PTE VOC (lb/hr)</th>
<th>Limited PTE VOC (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrubber FPC12</td>
<td>Germ Dryer</td>
<td>1070.4</td>
<td>98%</td>
<td>1070.40</td>
<td>4688.35</td>
<td>93.77</td>
</tr>
<tr>
<td>Scrubber FPC16</td>
<td>CGF Dryer</td>
<td>98%</td>
<td></td>
<td>21.41</td>
<td>93.77</td>
<td>21.41</td>
</tr>
<tr>
<td>Scrubber FPC13</td>
<td>Gluten Dryers #1 and #2</td>
<td>98%</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scrubber SPC49</td>
<td>Starch Dryer</td>
<td>5.62</td>
<td>98%</td>
<td>5.62</td>
<td>24.91</td>
<td>7.7</td>
</tr>
</tbody>
</table>

#### Methodology

- \( \text{PTE (ton/yr)} = \frac{\text{VOC Stack Test Result (Jan. 2017)}}{\text{1 - Control Efficiency}} \) * (1 ton/2000 lb)
- Note: Based on testing, the SO2 emission limits are achievable for the dryers.

Limited PTE SO2 Biogas/NG Combustion applies when the dryers are combusting biogas.
## Combustion Emissions from Dryers, RTOs FPC34a & FPC34b, and Biogas Flare

### Company Name: Grain Processing Corporation
### Source Location: 1443 S 300 W, Washington, IN 47501
### Title V Operating Permit Renewal No.: T027-42694-00046
### Reviewer: Tamera Wessel

#### Summary of Combustion Emission Factors and Control Efficiencies used for calculations.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Natural Gas Emission Factors</th>
<th>Biogas Emission Factors</th>
<th>Control Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SO2</td>
<td>NOx</td>
<td>VOC</td>
</tr>
<tr>
<td>Germ Dryer</td>
<td>17</td>
<td>0.60</td>
<td>40.8</td>
</tr>
<tr>
<td>Gluten Dryer #1</td>
<td>32</td>
<td>0.60</td>
<td>61.2</td>
</tr>
<tr>
<td>Gluten Dryer #2</td>
<td>23</td>
<td>0.60</td>
<td>61.2</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>93</td>
<td>0.60</td>
<td>47.9</td>
</tr>
<tr>
<td>RTO FPC34a</td>
<td>30</td>
<td>0.60</td>
<td>460.0</td>
</tr>
<tr>
<td>RTO FPC34b</td>
<td>30</td>
<td>0.60</td>
<td>460.0</td>
</tr>
<tr>
<td>Starch Dryer</td>
<td>31</td>
<td>0.60</td>
<td>76.5</td>
</tr>
<tr>
<td>Maltodextrin Dryer</td>
<td>53.5</td>
<td>0.61</td>
<td>see below</td>
</tr>
</tbody>
</table>

#### NG Emission Factors:
- SO2: Based on permitted limits or from AP-42, Ch. 1.4, Table 1.4-2.
- NOx: Based on permitted limits. For the Biogas Flare Pilot, the emission limit is based on AP-42, Ch. 13.5.
- NOx emission factor for Maltodextrin Dryer based on manufacturer guarantees (lb/MMBtu).

#### Biogas Emission Factors:
- SO2: Based on the emission factor determined after biogas is scrubbed, assuming an outlet H2S concentration of 550 ppmv. (See Biogas Flare calculations).
- NOx: Based on permitted limits. For the Biogas Flare, the emission limit is based on AP-42, Ch. 13.5, Table 13.5-1.
- CO: Based on an estimated emission factor of 0.2 lb/MMBtu for biogas combustion. 

#### Note: The CGF Dryer and the Maltodextrin Dryer do not have the capability to burn biogas.
Appendix A: Emission Calculations

Combustion Emissions from Dryers, RTOs FPC34a & FPC34b, and Biogas Flare

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Germ Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>17</td>
<td>17</td>
<td>SO2 0.4</td>
<td>2.98</td>
</tr>
<tr>
<td></td>
<td>Biogas</td>
<td>17</td>
<td>0</td>
<td>SO2 6.13</td>
<td>2.98</td>
</tr>
</tbody>
</table>

Gluten Dryer #1 Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>32</td>
<td>32</td>
<td>SO2 0.6</td>
<td>6.41</td>
</tr>
<tr>
<td></td>
<td>Biogas</td>
<td>23</td>
<td>0</td>
<td>SO2 8.1</td>
<td>6.41</td>
</tr>
</tbody>
</table>

Gluten Dryer #2 Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>23</td>
<td>23</td>
<td>SO2 0.6</td>
<td>6.41</td>
</tr>
<tr>
<td></td>
<td>Biogas</td>
<td>23</td>
<td>0</td>
<td>SO2 8.1</td>
<td>6.41</td>
</tr>
</tbody>
</table>

CGF Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>93</td>
<td>93</td>
<td>SO2 0.24</td>
<td>19.14</td>
</tr>
</tbody>
</table>

RTOs FPC34a and FPC34b Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>60</td>
<td>60</td>
<td>SO2 0.15</td>
<td>118.52</td>
</tr>
<tr>
<td></td>
<td>Biogas</td>
<td>60</td>
<td>30</td>
<td>SO2 1.59</td>
<td>118.52</td>
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</tbody>
</table>

Starch Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>31</td>
<td>31</td>
<td>SO2 0.08</td>
<td>10.18</td>
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Maltodextrin Dryer Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>Uncontrolled PTE (ton/yr)</th>
<th>PTE After Control (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Gas Only</td>
<td>53.5</td>
<td>53.5</td>
<td>SO2 0.14</td>
<td>9.37</td>
</tr>
</tbody>
</table>

Biogas Flare Combustion Emissions

<table>
<thead>
<tr>
<th>Fuel Scenario</th>
<th>Total Heat Capacity (MMBtu/hr)</th>
<th>NG Heat Capacity (MMBtu/hr)</th>
<th>Biogas Heat Capacity (MMBtu/hr)</th>
<th>PM</th>
<th>PM₁₀/PM₂.5</th>
<th>PM₁₀</th>
<th>PM₂.5</th>
<th>PM₁₀</th>
<th>PM₂.5</th>
<th>PM₁₀</th>
<th>PM₂.5</th>
<th>PM₁₀</th>
<th>PM₂.5</th>
<th>PM₁₀</th>
<th>PM₂.5</th>
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<th>PM₂.5</th>
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<th>PM₂.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas Pilot</td>
<td>18</td>
<td>18</td>
<td>0</td>
<td>0.15</td>
<td>0.59</td>
<td>0.05</td>
<td>5.36</td>
<td>4.97</td>
<td>24.44</td>
<td>0.15</td>
<td>0.59</td>
<td>0.05</td>
<td>5.36</td>
<td>4.97</td>
<td>24.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biogas</td>
<td>30</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0.05</td>
<td>8.28</td>
<td>8.28</td>
<td>26.28</td>
<td>0.00</td>
<td>0.00</td>
<td>20.07</td>
<td>8.94</td>
<td>8.28</td>
<td>26.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Methodology

Uncontrolled PTE (ton/yr) = Heat Capacity (MMBtu/hr) x Emission Factor (lb/MMCF) x (8760 hr/yr) x (1 ton/2000 lb) / Heat Content (MMBtu/MMCF)

Controlled PTE (ton/yr) = Uncontrolled PTE (ton/yr) x (1 - Control Efficiency)

Note: Only an equivalent of 30 MMBtu/hr of biogas is generated. For units with capacities of greater than 30 MMBtu/hr, the PTE is based on 30 MMBtu/hr biogas combustion + the remainder of capacity as natural gas combustion.

*Combustion VOC emissions are included with the process emissions for the dryers.

PM/PM10/PM2.5 emissions for the natural gas pilot are based on AP-42, Ch. 1.4 (1.9 lb/MMCF for PM and 7.6 lb/MMCF for PM10 and PM2.5).
### Summary of Emission Limits

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germ Dryer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gluten Dryer #1</td>
<td>2.51</td>
<td>11.38</td>
<td>11.38</td>
<td>0.55</td>
<td>0.68</td>
<td>0.81</td>
<td>0.88</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gluten Dryer #2</td>
<td>2.76</td>
<td>1.92</td>
<td>1.38</td>
<td>0.79</td>
<td>4.37</td>
<td>3.24</td>
<td>1.92</td>
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<td></td>
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</tr>
<tr>
<td>CGF Dryer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTO FPC34b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Starch Dryer</td>
<td>4.96</td>
<td>4.96</td>
<td>4.96</td>
<td>0.02</td>
<td>2.33</td>
<td>7.70</td>
<td>2.55</td>
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<tr>
<td>Maltodextrin Dryer</td>
<td>7.64</td>
<td>7.64</td>
<td>7.64</td>
<td>0.05</td>
<td>6.45</td>
<td>7.03</td>
<td>9.79</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Biogas burned in Germ or Gluten Dryers
**Biogas burned in RTOs

### Biogas may be used in the Germ Dryer, Gluten #1 Dryer, Gluten #2 Dryer, CGF Dryer, RTO34a, RTO34b, or the Biogas Flare. Based on this there are 3 possible scenarios:

#### Scenario 1: All biogas burned at the Germ or Gluten Dryers (Gluten Dryer #1 used for showing biogas emissions)

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PTE Before Controls (ton/yr)</th>
<th>PTE After Controls (ton/yr)</th>
<th>PTE After Limits (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gluten Dryer #1</td>
<td>123.56</td>
<td>2.98</td>
<td>4688.35</td>
</tr>
<tr>
<td>Gluten Dryer #2</td>
<td>390.68</td>
<td>8.41</td>
<td>27.00</td>
</tr>
<tr>
<td>CGF Dryer</td>
<td>0.24</td>
<td>19.14</td>
<td>33.55</td>
</tr>
<tr>
<td>RTO FPC34a</td>
<td>0.15</td>
<td>118.52</td>
<td>1.42</td>
</tr>
<tr>
<td>RTO FPC34b</td>
<td>477.90</td>
<td>477.90</td>
<td>477.90</td>
</tr>
<tr>
<td>Maltodextrin Dryer</td>
<td>477.90</td>
<td>477.90</td>
<td>477.90</td>
</tr>
<tr>
<td>Biogas Flare Pilot</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Biogas Flare</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Totals</td>
<td>2470.98</td>
<td>2470.98</td>
<td>2470.98</td>
</tr>
</tbody>
</table>

#### Scenario 2: All biogas burned at the RTOs

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PTE Before Controls (ton/yr)</th>
<th>PTE After Controls (ton/yr)</th>
<th>PTE After Limits (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gluten Dryer #1</td>
<td>123.56</td>
<td>2.98</td>
<td>4688.35</td>
</tr>
<tr>
<td>Gluten Dryer #2</td>
<td>370.69</td>
<td>8.41</td>
<td>11.54</td>
</tr>
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<td>CGF Dryer</td>
<td>0.24</td>
<td>19.14</td>
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<tr>
<td>RTO FPC34a</td>
<td>20.14</td>
<td>160.00</td>
<td>1.91</td>
</tr>
<tr>
<td>RTO FPC34b</td>
<td>477.90</td>
<td>477.90</td>
<td>477.90</td>
</tr>
<tr>
<td>Maltodextrin Dryer</td>
<td>477.90</td>
<td>477.90</td>
<td>477.90</td>
</tr>
<tr>
<td>Biogas Flare Pilot</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Biogas Flare</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>2470.98</td>
<td>2470.98</td>
<td>2470.98</td>
</tr>
</tbody>
</table>
### Summary of Emissions from Dryers, RTOs FPC34a & FPC34b, and Biogas Flare

#### Scenario 3: All biogas burned at the Biogas Flare

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM Before Controls (ton/yr)</th>
<th>PM After Controls (ton/yr)</th>
<th>PM After Limits (ton/yr)</th>
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<tbody>
<tr>
<td>Germ Dryer</td>
<td>1993.08</td>
<td>1993.08</td>
<td>49.83</td>
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<tr>
<td>Gluten Dryer #1</td>
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<td>4688.4</td>
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<td>Gluten Dryer #2</td>
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<td>CGF Dryer</td>
<td>0.15</td>
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<td>RTO FPC34a</td>
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<td>Biogas Flare Pilot</td>
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<td>Biogas Flare</td>
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<tr>
<td>Totals</td>
<td>2471.13</td>
<td>2471.57</td>
<td>49.83</td>
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</table>

**PTE Before Controls:**
- PM/PM10/PM2.5: Dryer and RTO Emissions based on uncontrolled process and combustion emissions. Biogas Flare Pilot and Biogas Flare based on combustion emissions.
- SO2: Germ/Gluten #1/Gluten #2/CGF Dryer Emissions based on uncontrolled process emissions + uncontrolled combustion emissions. Maltodextrin/Starch Dryers, RTOs, Biogas Flare Pilot, and Biogas Flare based on combustion emissions.
- NOx and CO: Based on uncontrolled combustion emissions.
- VOC: Dryer Emissions based on uncontrolled process and combustion emissions. RTOs, Biogas Flare Pilot, and Biogas Flare based on combustion emissions.
- VOC for Germ Dryer, Gluten Dryer #1, Gluten Dryer #2, and CGF Dryer was determined during the most recent stack test. It was the inlet to the T-Ox FPC34. Only one T-Ox was tested so the PTE is based on both T-Ox running; therefore, the stack test inlet rate was multiplied by 2 to conservatively estimate emissions vented to both oxidizers.

**PTE After Controls:**
- PM/PM10/PM2.5: Dryer and RTO Emissions based on controlled process and combustion emissions. Biogas Flare Pilot and Biogas Flare based on combustion emissions.
- SO2: Germ/Gluten #1, Gluten #2, CGF Dryer Emissions based on controlled process emissions + controlled combustion emissions. Maltodextrin/Dryers, RTOs, Biogas Flare Pilot, and Biogas Flare based on combustion emissions.
- NOx: Based on uncontrolled combustion emissions (no controls).
- VOC: Dryer Emissions based on controlled process and combustion emissions. Biogas Flare Pilot, and Biogas Flare based on combustion emissions. RTO based on stack test results
- CO: Based on controlled combustion emissions.

**PTE After Limits:**
- PM/PM10: Dryer and RTO Emissions based on PM and PM10 emission limits (including process and combustion emissions). Biogas Flare Pilot and Biogas Flare based on combustion emissions.
- PM2.5: PM2.5 is not specifically limited for these units. Based on the need for a control device, the PTE is set equal to the limited PTE of PM10.
- SO2: Germ/Gluten #1/Gluten #2, CGF Dryer Emissions based on SO2 emission limit (including process and combustion emissions). RTOs, Biogas Flare Pilot, and Biogas Flare based on combustion emissions.
- NOx: Based on uncontrolled combustion emissions (no controls).
- VOC: Dryer Emissions based on controlled process and combustion emissions. Biogas Flare Pilot, and Biogas Flare based on combustion emissions. RTO based on stack test results
- CO: Based on controlled combustion emissions.
### Appendix A: Emission Calculations

<table>
<thead>
<tr>
<th>Plant</th>
<th>SMF Increase</th>
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<tbody>
<tr>
<td></td>
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#### CP01
**Corn Unloading Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Duration</th>
<th>Production (bu/yr)</th>
<th>Emission Factor (lb/bu)</th>
<th>Emissions (ton/yr)</th>
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</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>34,540,930</td>
<td>2.6E-05</td>
<td>4.5E-01</td>
</tr>
<tr>
<td>08/2014 - 07/2015</td>
<td>34,481,383</td>
<td>2.6E-05</td>
<td>4.5E-01</td>
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</table>

**Baseline Actual Emissions (ton/yr)**

<table>
<thead>
<tr>
<th>PM/PM10/PM2.5</th>
<th>Past Actual</th>
<th>Future Actual</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>0.45</td>
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<td>1.29</td>
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<td>PM10</td>
<td>0.08</td>
<td>0.30</td>
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#### CP05
**Corn Receiving Transfer Dust Collector**

**Past Actual Emission Calculations**

<table>
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<th>Duration</th>
<th>Production (bu/yr)</th>
<th>Emission Factor (lb/bu)</th>
<th>Emissions (ton/yr)</th>
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</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>34,540,930</td>
<td>2.5E-05</td>
<td>4.3E-01</td>
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<tr>
<td>08/2014 - 07/2015</td>
<td>34,481,383</td>
<td>2.5E-05</td>
<td>4.3E-01</td>
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**Baseline Actual Emissions (ton/yr)**

<table>
<thead>
<tr>
<th>PM/PM10/PM2.5</th>
<th>Past Actual</th>
<th>Future Actual</th>
<th>Increase</th>
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<tbody>
<tr>
<td>PM</td>
<td>0.43</td>
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<td>PM10</td>
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#### CP06
**Steep Area SO2 Scrubber**

**Past Actual Emission Calculations**

<table>
<thead>
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<th>Production (bu/yr)</th>
<th>Emission Factor (lb/bu)</th>
<th>Emissions (ton/yr)</th>
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**Baseline Actual Emissions (ton/yr)**

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<th>Past Actual</th>
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<tr>
<td>SO2</td>
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<td>0.71</td>
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### Past Actual Emission Calculations

**FP07**

**Mill Area SO2 Scrubber**

<table>
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<th>Production (bu/yr)</th>
<th>Emission Factor (lb/bu)</th>
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</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
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<td>Permit Milling Rate</td>
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**FP22**

**Feed Area SO2 Scrubber**

<table>
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<th>Period</th>
<th>Production (bu/yr)</th>
<th>Emission Factor (lb/bu)</th>
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</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>34,540,930</td>
<td>4.0E-05</td>
<td>7E-01</td>
</tr>
<tr>
<td>08/2014 - 07/2015</td>
<td>34,481,383</td>
<td>1.6E-05</td>
<td>1.04</td>
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<tr>
<td>Permit Milling Rate</td>
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**FP10**

**Germ Transport Baghouse**

<table>
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<tr>
<th>Period</th>
<th>Production (lb/yr)</th>
<th>Emission Factor (lb/lb)</th>
<th>Baseline Actual Emissions (ton/yr)</th>
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<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>116,269,545</td>
<td>7.0E-06</td>
<td>4.1E-01</td>
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<tr>
<td>08/2014 - 07/2015</td>
<td>115,707,733</td>
<td>1.6E-05</td>
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<td>Permit Germ Transport System Rate</td>
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**FP12**

**Germ Dryer Scrubber**

<table>
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<th>Period</th>
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<th>Emission Factor (lb/lb)</th>
<th>Baseline Actual Emissions (ton/yr)</th>
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<tr>
<td>08/2013 - 07/2014</td>
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<td>1.8E-05</td>
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<tr>
<td>08/2014 - 07/2015</td>
<td>115,707,733</td>
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**FP13**

**Gluten Dryer Scrubber**

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<th>Emission Factor (lb/lb)</th>
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<td>08/2014 - 07/2015</td>
<td>77,050,000</td>
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**FP14**

**Gluten Transport Baghouse**

**Past Actual Emission Calculations**

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<th>Period</th>
<th>Gluten Production</th>
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**PM (PM10, PM2.5)**

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<th>PM2.5</th>
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**Baseline Actual Emissions (ton/yr)**

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<tr>
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<td>0.37</td>
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<td>Future Actual</td>
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**FP17**

**CGF Condensing Tower**

**Past Actual Emission Calculations**

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<th>Period</th>
<th>CGF Production</th>
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<td>292,792,000</td>
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<tr>
<td>08/2014 - 07/2015</td>
<td>290,478,000</td>
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**SO2, NOx**

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**Baseline Actual Emissions (ton/yr)**

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**FP18**

**Fiber Cooling Baghouse**

**Past Actual Emission Calculations**

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<th>CGF Production</th>
<th>lb/yr</th>
<th>Permit Dried CGF Rate</th>
<th>lb/yr</th>
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<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>292,792,000</td>
<td></td>
<td>455,520,000</td>
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<tr>
<td>08/2014 - 07/2015</td>
<td>290,478,000</td>
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<td>455,520,000</td>
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**PM (PM10, PM2.5)**

<table>
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<th>PM</th>
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<th>PM2.5</th>
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<td>1.262E-05</td>
<td>2.145E-06</td>
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**Baseline Actual Emissions (ton/yr)**

<table>
<thead>
<tr>
<th>PM</th>
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<th>PM2.5</th>
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<tr>
<td>Past Actual</td>
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**FP19**

**Cage Mill Baghouse**

**Past Actual Emission Calculations**

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<th>Period</th>
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<th>lb/yr</th>
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<th>lb/yr</th>
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<tr>
<td>08/2013 - 07/2014</td>
<td>292,792,000</td>
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<td>455,520,000</td>
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<tr>
<td>08/2014 - 07/2015</td>
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**PM (PM10, PM2.5)**

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<thead>
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<th>PM2.5</th>
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**Baseline Actual Emissions (ton/yr)**

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<thead>
<tr>
<th>PM</th>
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<th>PM2.5</th>
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<tbody>
<tr>
<td>Past Actual</td>
<td>0.16</td>
<td>0.07</td>
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<tr>
<td>Future Actual</td>
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<tr>
<td>Increase</td>
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#### FP20
**Corn Cleaning Transfer Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/bu)</th>
<th>Emission (ton/yr)</th>
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</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>34,540,910</td>
<td>1.969E-06</td>
<td>0.03401</td>
</tr>
<tr>
<td>2014-15</td>
<td>34,481,383</td>
<td>1.969E-06</td>
<td>0.03401</td>
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Baseline Actual Emissions (ton/yr) = 0.03401

#### FP22
**CGF Storage Bin Vent**

**Past Actual Emission Calculations**

<table>
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<tr>
<th>Year</th>
<th>Production</th>
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<th>Emission (ton/yr)</th>
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<tbody>
<tr>
<td>2013-14</td>
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<td>2014-15</td>
<td>290,478,000</td>
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Baseline Actual Emissions (ton/yr) = 0.01402

#### FP24
**Pellet Cooler Cyclone**

**Past Actual Emission Calculations**

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<th>Year</th>
<th>Production</th>
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<th>Emission (ton/yr)</th>
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<tr>
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</tr>
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<td>2014-15</td>
<td>290,478,000</td>
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Baseline Actual Emissions (ton/yr) = 1.33671

#### FP26
**Truck Loadout Baghouse**

**Past Actual Emission Calculations**

<table>
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<tr>
<th>Year</th>
<th>Production</th>
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<th>Emission (ton/yr)</th>
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<td>483,235,733</td>
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Baseline Actual Emissions (ton/yr) = 0.12143

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#### FP20
**Corn Cleaning Transfer Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/bu)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>34,540,910</td>
<td>1.969E-06</td>
<td>0.03401</td>
</tr>
<tr>
<td>2014-15</td>
<td>34,481,383</td>
<td>1.969E-06</td>
<td>0.03401</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.03401

#### FP22
**CGF Storage Bin Vent**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>292,792,000</td>
<td>9.615E-08</td>
<td>0.01408</td>
</tr>
<tr>
<td>2014-15</td>
<td>290,478,000</td>
<td>9.615E-08</td>
<td>0.01396</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.01402

#### FP24
**Pellet Cooler Cyclone**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>292,792,000</td>
<td>9.167E-06</td>
<td>1.34201</td>
</tr>
<tr>
<td>2014-15</td>
<td>290,478,000</td>
<td>9.167E-06</td>
<td>1.33141</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 1.33671

#### FP26
**Truck Loadout Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>416,903,545</td>
<td>5.396E-07</td>
<td>0.11248</td>
</tr>
<tr>
<td>2014-15</td>
<td>483,235,733</td>
<td>5.396E-07</td>
<td>0.13038</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.12143

### TSD APP A 33 of 48

#### FP20
**Corn Cleaning Transfer Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/bu)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>34,540,910</td>
<td>1.969E-06</td>
<td>0.03401</td>
</tr>
<tr>
<td>2014-15</td>
<td>34,481,383</td>
<td>1.969E-06</td>
<td>0.03401</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.03401

#### FP22
**CGF Storage Bin Vent**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
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<td>0.01408</td>
</tr>
<tr>
<td>2014-15</td>
<td>290,478,000</td>
<td>9.615E-08</td>
<td>0.01396</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.01402

#### FP24
**Pellet Cooler Cyclone**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 1.33671

#### FP26
**Truck Loadout Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
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</thead>
<tbody>
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<td>483,235,733</td>
<td>5.396E-07</td>
<td>0.13038</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.12143

### TSD APP A 33 of 48

#### FP20
**Corn Cleaning Transfer Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/bu)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
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</tr>
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</table>

Baseline Actual Emissions (ton/yr) = 0.03401

#### FP22
**CGF Storage Bin Vent**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
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<tbody>
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</tr>
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<td>2014-15</td>
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<td>9.615E-08</td>
<td>0.01396</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.01402

#### FP24
**Pellet Cooler Cyclone**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>2014-15</td>
<td>290,478,000</td>
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<td>1.33141</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 1.33671

#### FP26
**Truck Loadout Baghouse**

**Past Actual Emission Calculations**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Emission Factor (lb/lb)</th>
<th>Emission (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>2014-15</td>
<td>483,235,733</td>
<td>5.396E-07</td>
<td>0.13038</td>
</tr>
</tbody>
</table>

Baseline Actual Emissions (ton/yr) = 0.12143
### Past Actual Emission Calculations

#### RTO's Past Actual Emission Calculations

<table>
<thead>
<tr>
<th>Period</th>
<th>CGF, Germ, Gluten Production (lb/yr)</th>
<th>Emission Factor (lb/lb)</th>
<th>Emissions Calculated (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>416,903,545</td>
<td>1.000E-04</td>
<td>20.84518</td>
</tr>
<tr>
<td>08/2014 - 07/2015</td>
<td>483,235,733</td>
<td>1.000E-04</td>
<td>24.16179</td>
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</table>

#### PM PM10 PM2.5 NOx

<table>
<thead>
<tr>
<th>Period</th>
<th>Emission Factor (lb/lb)</th>
<th>Baseline Actual Emissions (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>1.000E-04</td>
<td>22.50348</td>
</tr>
<tr>
<td>08/2014 - 07/2015</td>
<td>1.000E-04</td>
<td>22.50348</td>
</tr>
</tbody>
</table>

#### VOC

<table>
<thead>
<tr>
<th>Period</th>
<th>Emission Factor (lb/lb)</th>
<th>Baseline Actual Emissions (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/2013 - 07/2014</td>
<td>3.649E-05</td>
<td>8.21152</td>
</tr>
<tr>
<td>08/2014 - 07/2015</td>
<td>8.81664</td>
<td>13.59</td>
</tr>
</tbody>
</table>

#### Increase

- PM: 4.21
- PM10: 13.59
- PM2.5: 5.37
Appendix A: Emission Calculations

Boilers 1 and 2

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Per Boiler
Heat Input Capacity (each) 271.0 MMBtu/hr

<table>
<thead>
<tr>
<th>Fuels</th>
<th>Maximum Alcohol per Boiler (MMBtu/hr)</th>
<th>Maximum Natural Gas per Boiler (MMBtu/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All NG</td>
<td>0</td>
<td>271.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMBtu</th>
<th>PM*</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>0.0019</td>
<td>0.0075</td>
<td>0.0075</td>
<td>0.0006</td>
<td>0.0980</td>
<td>0.0054</td>
<td>0.0824</td>
</tr>
</tbody>
</table>

*PM is filterable PM only. PM10 is filterable PM10 and condensable PM. PM2.5 is filterable PM2.5 and condensable PM.

Natural Gas Emission Factors from AP-42, Ch. 1.4, Tables 1.4-1 and 1.4-2.
Natural Gas Emission Factors (lb/MMBtu) = Emission Factors (lb/MMCF) x (1 MMCF/1020 MMBtu)

<table>
<thead>
<tr>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTE (ton/yr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x (8760 hr/yr) x (1 ton/2000 lb)</td>
</tr>
</tbody>
</table>

Limited PTE

<table>
<thead>
<tr>
<th>Permit Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Limit</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Natural Gas (lb/MMBtu)</td>
</tr>
<tr>
<td>Natural Gas (lb/hr)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limited PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTE (ton/yr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x (8760 hr/yr) x (1 ton/2000 lb)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural Gas Only (Each Boiler)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>2.37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Both Boiler 1 and Boiler 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>4.75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>4.75</td>
</tr>
</tbody>
</table>
Appendix A: Emissions Calculations
Alcohol and Distillation Heads Loadout Area

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewers: Tamera Wessel

Denatured ethanol will be shipped by either truck or railcar loading via the ethanol loading rack. Railcars will be dedicated fleets, but the trucks may be used to carry gasoline prior to filling with ethanol. Both railcars and trucks will be filled by submerged loading process. The ethanol loading rack will be controlled by one enclosed flare (APC97).

1. Emission Factors: AP-42
According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (6/08), the VOC emission factors for the truck and rail loading racks can be estimated from the following equation:

\[ L = 12.46 \times \frac{(SPM)}{T} \]

where:
- \( L \) = loading loss (lbs/kgal of liquid loaded)
- \( S \) = a saturation factor (see AP-42, Table 5.2-1)
- \( P \) = true vapor pressure of the liquid loaded (psia)
- \( M \) = molecular weight of vapors (lb/lbmol)
- \( T \) = temperature of the bulk liquid loaded (degree R)

<table>
<thead>
<tr>
<th>Previous Stored Liquid</th>
<th>*S</th>
<th>P (psia)</th>
<th>M (lbs/lbmol)</th>
<th>T (degree R)</th>
<th>L (lbs/kgal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline (normal)</td>
<td>1.0</td>
<td>4.9722</td>
<td>66</td>
<td>515.72</td>
<td>7.93</td>
</tr>
<tr>
<td>Gasoline (clean cargo)</td>
<td>0.5</td>
<td>4.9722</td>
<td>66</td>
<td>515.72</td>
<td>3.96</td>
</tr>
<tr>
<td>Denatured Ethanol (normal)</td>
<td>0.6</td>
<td>0.72</td>
<td>49.6</td>
<td>515.72</td>
<td>0.52</td>
</tr>
<tr>
<td>Denatured Ethanol (clean cargo)</td>
<td>0.5</td>
<td>0.72</td>
<td>49.6</td>
<td>515.72</td>
<td>0.43</td>
</tr>
</tbody>
</table>

Therefore, the emission factor for loading denatured ethanol to the trucks which stored gasoline previously

\[ = L \text{ (gasoline, normal)} - L \text{ (gasoline, clean cargo)} + L \text{ (denatured ethanol, clean cargo)} = 4.40 \text{ (lbs/kgal)} \]

2. Potential to Emit VOC Before Control (APC97):

(1) Assume all ethanol loaded out via truck:

Loading rate for trucks: 83.0 MMgal/yr

PTE of VOC before Control (tons/yr) = 83 MMgal/yr x 4.40 lbs/kgal x 1 ton/2000 lbs = 182 tons/yr

(2) Assume all ethanol loaded out via rail:

Loading rate for rail: 83.0 MMgal/yr

PTE of VOC before Control (tons/yr) = 83 MMgal/yr x 0.52 lbs/kgal x 1 ton/2000 lbs = 21.6 tons/yr

3. Controlled Potential to Emit (APC97):

Annual Production Limit: 83,000 kgal/yr (total)

Flare APC97 Control Efficiency: 98%

(1) Assume all ethanol loaded out via truck (controlled by APC97):

PTE of VOC from truck loading (tons/yr) = 4.40 lbs/kgal x 83,000 kgal/yr x (1-98%) x 1 ton/2000 lbs = 3.65 tons/yr

(2) Assume all denatured ethanol is loaded to railcars (controlled by APC97):

PTE of VOC (tons/yr) = 0.52 lbs/kgal x 83,000 kgal/yr x (1-98%) x 1 ton/2000 lbs = 0.43 tons/yr

Worst case scenario is when loading 83 MMgal/yr denatured ethanol to trucks = 3.65 tons/yr

4. Uncontrolled VOC emissions from spills (APC97):

Estimated annual railcar loadout (28,500 gallons each) = 1200
Estimated annual truck loadout (8000 gallons each) = 6100
An allowance for spills per railcar (gallons) = 1.25
An allowance for spills per truck (gallons) = 0.75
Alcohol Density (lb/gallon) = 6.8

gallons spilled/year = # of railcars loaded x allowance/railcars + # of railcars loaded x allowance/railcar = 6075
VOC (lb/yr) = gallons spilled/year * alcohol density (lb/gal) = 41310
VOC emitted from spills (tpy) = VOC(lb/yr) x 1/2000 (ton/lb) = 20.655
Appendix A: Emissions Calculations

Flare (APC97) Combustion and Limited VOC Emissions

Company Name: Grain Processing Corporation  
Source Location: 1443 S 300 W, Washington, IN 47501  
Title V Operating Permit Renewal No.: T027-42694-00046  
Reviewer: Tamera Wessel

Combustion Emissions from 12 MMBtu/hr Enclosed Flare (APC97)

<table>
<thead>
<tr>
<th>Criteria Pollutants</th>
<th>PM*</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>NG Emission Factor (lb/MMBtu)</td>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.068</td>
<td>0.063</td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>NG Emission Factor (lb/MMCF)</td>
<td>0.068</td>
<td>0.063</td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emission Factors for PM, PM10, PM2.5, and SO2 are from AP-42, Ch. 1.4 (Natural Gas Combustion)  
*PM is filterable only. PM10 and PM2.5 are filterable and condensable PM.

Emission Factors for NOx, VOC, and CO are from AP-42, Ch. 13.5 (Industrial Flares), Tables 13.5-1 and 13.5-2

VOC Emission Factor = Total Hydrocarbon Emission Factor x (1 - 0.55) to remove the estimated methane component from the emission factor.

| Benzene | 2.1E-03 |
| Dibromomethane | 1.2E-03 |
| Formaldehyde | 7.5E-02 |
| Hexane | 1.8E+00 |
| Toluene | 3.4E-03 |
| Lead | 5.0E-04 |
| Cadmium | 1.1E-03 |
| Chromium | 1.4E-03 |
| Manganese | 3.8E-04 |
| Nickel | 2.1E-03 |
| Total HAPs | 1.8880 |

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4. Total HAPs is the sum of all HAPs listed in AP-42.

Methodology

Natural Gas Throughput (MMCF/yr) = Heat Input Capacity x (1 MMCF/1020 MMBtu) x (8760 hr/yr)

Potential Emissions (ton/yr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x (8760 hr/yr) x (1 ton/2000 lb)

OR

Potential Emissions (ton/yr) = Natural Gas Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x (1 ton/2000 lb)

Limited Potential to Emit VOC from Units Routed to Flare APC97

<table>
<thead>
<tr>
<th>Process</th>
<th>ID</th>
<th>Limited VOC PTE (lb/hr)</th>
<th>Limited VOC PTE (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Alcohol Storage</td>
<td>TK-106-010</td>
<td>1.59</td>
<td>6.96</td>
</tr>
<tr>
<td>Demeth Feed Tank</td>
<td>TK-106-017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol and Distillation Products Loadout Area</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A: Emissions Calculations

Tanks Summary

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

<table>
<thead>
<tr>
<th>Stack ID</th>
<th>Control ID</th>
<th>Description of Control</th>
<th>Emission Unit</th>
<th>VOC (tpy)</th>
<th>VOC (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP94</td>
<td>AP94</td>
<td>Internal Floating Roof</td>
<td>Heads Tank #2</td>
<td>0.13</td>
<td>0.03</td>
</tr>
<tr>
<td>AP95</td>
<td>AP95</td>
<td>Internal Floating Roof</td>
<td>Denaturant Tank #1</td>
<td>0.87</td>
<td>0.20</td>
</tr>
<tr>
<td>AP96</td>
<td>AP96</td>
<td>Internal Floating Roof</td>
<td>Denaturant Tank #2</td>
<td>0.87</td>
<td>0.20</td>
</tr>
<tr>
<td>AP97</td>
<td>AP97</td>
<td>Internal Floating Roof</td>
<td>Denaturant Tank #3</td>
<td>1.14</td>
<td>0.26</td>
</tr>
<tr>
<td>AP98</td>
<td>AP98</td>
<td>Internal Floating Roof</td>
<td>Denaturant Tank #4</td>
<td>0.55</td>
<td>0.13</td>
</tr>
<tr>
<td>AP99</td>
<td>AP99</td>
<td>Internal Floating Roof</td>
<td>Denaturant Mix Tank #2</td>
<td>0.67</td>
<td>0.15</td>
</tr>
<tr>
<td>AP100</td>
<td>AP100</td>
<td>Internal Floating Roof</td>
<td>Denaturant Mix Tank #1</td>
<td>0.67</td>
<td>0.15</td>
</tr>
<tr>
<td>AP101</td>
<td>AP101</td>
<td>Internal Floating Roof</td>
<td>Denaturant Mix Tank #3</td>
<td>0.91</td>
<td>0.21</td>
</tr>
<tr>
<td>AP104</td>
<td>AP104</td>
<td>Internal Floating Roof</td>
<td>Burn Tank</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>AP102</td>
<td>AP102</td>
<td>Internal Floating Roof</td>
<td>Denaturant Tank #5</td>
<td>1.13</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Total: 6.03 lb/hr, 1.38 tpy

Sodium Bisulfite Solution Storage Tank

823,500 gallons of sodium bisulfite solution is unloaded per year. There are 1.2 lb potential SO2 released for every 4,500 gallons of sodium bisulfite solution unloaded.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Annual Throughput (gal/yr)</th>
<th>SO2 EF (lb/gal)</th>
<th>PTE SO2 (lb/hr)</th>
<th>PTE SO2 (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Bisulfite Tank</td>
<td>823500</td>
<td>0.000267</td>
<td>0.025</td>
<td>0.11</td>
</tr>
</tbody>
</table>

Methodology

PTE SO2 (lb/hr) = Annual Throughput (gal/yr) x SO2 EF (lb/gal) x (1 yr/8760 hr)
PTE SO2 (tpy) = PTE SO2 (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Maltodextrin Process

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>VOC (tpy)</th>
<th>VOC (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seven (7) maltodextrin tanks</td>
<td>0.208</td>
<td>0.05</td>
</tr>
<tr>
<td>Two (2) vacuum receivers</td>
<td>0.24</td>
<td>0.05</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Storage Tank ID</th>
<th>Product Stored</th>
<th>Tank Type</th>
<th>Tank Color/Shade</th>
<th>Tank Dimensions</th>
<th>Maximum Liquid Volume (gallons)</th>
<th>Turnovers per year</th>
<th>Product Throughput (gallons/yr)</th>
<th>VOC Working Losses (lbs/yr)</th>
<th>VOC Breathing Losses (lbs/yr)</th>
<th>Total VOC Losses (lbs/yr)</th>
<th>VOC Working Losses (tons/yr)</th>
<th>VOC Breathing Losses (tons/yr)</th>
<th>Total VOC Losses (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK-106-008</td>
<td>Ethanol</td>
<td>Vertical Fixed Roof</td>
<td>White/White</td>
<td>Diameter: 40'</td>
<td>450,000</td>
<td>25.79</td>
<td>11,604,000</td>
<td>4084.72</td>
<td>2749.30</td>
<td>6834.02</td>
<td>2.04</td>
<td>1.37</td>
<td>3.42</td>
</tr>
</tbody>
</table>
**Appendix A: Emission Calculations**

**Cooling Tower (Mist Elimination System APC38)**

Company Name: Grain Processing Corporation  
Source Location: 1443 S 300 W, Washington, IN 47501  
Title V Operating Permit Renewal No.: T027-42694-00046  
Reviewer: Tamera Wessel

### APC38 Cooling Tower - Mist Elimination System

<table>
<thead>
<tr>
<th>flow rate (gpm)</th>
<th>TDS (ppm)</th>
<th>Drift (%)</th>
<th>PM/PM10/PM2.5 (lb/hr)</th>
<th>Limited PTE PM and PM10 (lb/hr)</th>
<th>(tpy)</th>
<th>(tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>44000</td>
<td>5000</td>
<td>0.0050%</td>
<td>5.51</td>
<td>4.5</td>
<td>19.71</td>
<td></td>
</tr>
</tbody>
</table>

**PM/PM10/PM2.5 PTE (lb/hr)** = Flow Rate (gpm) x (60 min/hr) x 8.35 lb/gal x TDS (ppm)/1,000,000 x Drift %  
**PTE (ton/yr)** = PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
Appendix A: Emission Calculations

Reciprocating Internal Combustion Engines - Diesel Fuel (< 600 HP)

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

Emergency Fire Water Pump Engine

<table>
<thead>
<tr>
<th>Output Horsepower Rating (hp)</th>
<th>425.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Value:</td>
<td>19.57 hp-hr/gal</td>
</tr>
<tr>
<td>Maximum Hours Operated per Year</td>
<td>96</td>
</tr>
<tr>
<td>Potential Throughput (hp-hr/yr)</td>
<td>40,800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
<td>0.0067</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>0.63</td>
<td>0.05</td>
<td>0.14</td>
<td></td>
</tr>
</tbody>
</table>

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

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr****</td>
<td>6.53E-06</td>
<td>2.86E-06</td>
<td>2.00E-06</td>
<td>2.74E-07</td>
<td>8.26E-06</td>
<td>5.37E-06</td>
<td>6.48E-07</td>
<td>1.18E-06</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>1.33E-04</td>
<td>5.84E-05</td>
<td>4.07E-05</td>
<td>5.58E-06</td>
<td>1.69E-04</td>
<td>1.10E-04</td>
<td>1.32E-05</td>
<td>2.40E-05</td>
</tr>
</tbody>
</table>

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Limited PTE

Fuel Limit: 1,128 gal/yr

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Limit (g/hp-hr)</td>
<td>0.16</td>
<td>0.16</td>
<td>0.16</td>
<td>0.005</td>
<td>9.5</td>
<td>0.05</td>
<td>2.01</td>
</tr>
<tr>
<td>PTE (ton/yr)</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
<td>0.0001</td>
<td>0.231</td>
<td>0.001</td>
<td>0.049</td>
</tr>
</tbody>
</table>

Limited Potential to Emit (ton/yr) = Limit (g/hp-hr) x Heating Value (hp-hr/gal) x Fuel Use Limit (gal/yr) x (1 lb/453.6 g) x (1 ton/2,000 lb)
The SO2 Emission Limit is based on the Manufacturer's guarantee for 0.2% sulfur fuel, scaled to 0.0015% sulfur fuel as limited.
Appendix A: Emissions Summary

**Gasoline Fuel Transfer and Dispensing Operation**

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation emission factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids were used. The total potential emission of VOC is as follows:

Gasoline Throughput = 333.3 gallons/day  
Gasoline Throughput = 121.65 kgal/yr

### Volatile Organic Compounds (VOC)

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Emission Factor (lb/kgal of throughput)*</th>
<th>PTE of VOC (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filling storage tank (splash filling)</td>
<td>11.50</td>
<td>0.6995</td>
</tr>
<tr>
<td>Tank breathing and emptying</td>
<td>1.00</td>
<td>0.0608</td>
</tr>
<tr>
<td>Vehicle refueling (displaced losses - uncontrolled)</td>
<td>11.00</td>
<td>0.6691</td>
</tr>
<tr>
<td>Spillage</td>
<td>0.70</td>
<td>0.0426</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.472</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Methodology**

The gasoline throughput is based on the worst case assumption of 9,999 gallons per month (less than 10,000 gallons per month).

*Emission Factors from AP-42 Chapter 5.2 Transportation And Marketing Of Petroleum Liquids (dated 6/08), Table 5.2-7. Worst case emission factors used.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (gallons/day)] * [365 days/yr] * [kgal/1000 gal]  
PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

### Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Volatile Organic HAP</th>
<th>CAS#</th>
<th>Hazardous Air Pollutant (HAP) Content (vapor mass fraction)**</th>
<th>PTE of HAP (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0.37%</td>
<td>5.4E-03</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
<td>0.34%</td>
<td>5.0E-03</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>0.40%</td>
<td>5.9E-03</td>
</tr>
<tr>
<td>m-Xylenes</td>
<td>108-38-3</td>
<td>0.11%</td>
<td>1.6E-03</td>
</tr>
</tbody>
</table>

**Total PTE of HAPs (tons/yr)**  
**PTE of Worst Single HAP (tons/yr)** 5.9E-03 (Toluene)

**Methodology**

**Source:** US EPA TANKS Version 4.09 program  
PTE of Total HAPs (tons/yr) = [Total HAP Content (% by weight)] * [PTE of VOC (tons/yr)]  
PTE of HAP (tons/yr) = [Hazardous Air Pollutant (HAP) Content (vapor mass fraction)] * [PTE of VOC (tons/yr)]
HAPs for the Gluten #2 Dryer are being shown to demonstrate that the unit is not subject to 326 IAC 2-4.1 (Major Sources of HAPs)

**Combustion HAPs**

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMCF</th>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Unit</td>
<td>Heat Input Capacity (MMBtu/hr)</td>
<td>Potential Throughput (MMCF/yr)</td>
<td>Potential Emissions (tons/yr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gluten #2 Dryer</td>
<td>23</td>
<td>197.529</td>
<td>2.1E-04</td>
<td>1.2E-04</td>
<td>7.4E-03</td>
<td>1.8E-01</td>
<td>3.4E-04</td>
<td>4.9E-05</td>
<td>1.1E-04</td>
<td>1.4E-04</td>
</tr>
</tbody>
</table>

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4. The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Methodology**

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) * 8.760 hrs/yr * 1 MMCF/1,020 MMBtu

Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

**Process HAPs**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Methanol</th>
<th>Styrene</th>
<th>Formaldehyde</th>
<th>Toluene</th>
<th>Hexane</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Benzene</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gluten #2 Dryer</td>
<td>0.1312</td>
<td>0.0281</td>
<td>0.1744</td>
<td>0.0280</td>
<td>0.1750</td>
<td>0.1372</td>
<td>0.0849</td>
<td>0.0129</td>
<td>0.7716</td>
</tr>
</tbody>
</table>

Process HAPs (ton/yr) = Process HAPs (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Total HAPs = 3.57 ton/yr

Worst Single HAP = 0.94 ton/yr (Hexane)
### Appendix A: Emissions Calculations

**SP1: Carbon Bay Storage Pile**

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

<table>
<thead>
<tr>
<th>Activity</th>
<th>PTE (ton/yr)</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM</td>
<td>PM10</td>
</tr>
<tr>
<td>Loading and Unloading</td>
<td>0.00075</td>
<td>0.00036</td>
</tr>
<tr>
<td>Storage</td>
<td>9.68E-06</td>
<td>9.68E-06</td>
</tr>
<tr>
<td>Transportation</td>
<td>4.52</td>
<td>1.41</td>
</tr>
<tr>
<td>Total</td>
<td>4.52</td>
<td>1.41</td>
</tr>
</tbody>
</table>

#### Loading and Unloading from Storage Piles
From AP-42, Chapter 13.2.4

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM PM10 PM2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E = Emission Factor (lb/ton)</td>
<td>0.0004</td>
<td>0.0002</td>
<td>0.00003</td>
</tr>
<tr>
<td>k = particle size multiplier</td>
<td>0.74</td>
<td>0.35</td>
<td>0.053</td>
</tr>
<tr>
<td>U = mean wind speed (mph)</td>
<td>9.8</td>
<td>9.8</td>
<td>9.8</td>
</tr>
<tr>
<td>M = material moisture content (%)</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>MT = Material Transferred (ton/hr)</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
</tr>
<tr>
<td>PTE = Potential to Emit (ton/yr)</td>
<td>0.00075</td>
<td>0.00036</td>
<td>0.00005</td>
</tr>
</tbody>
</table>

#### Fugitive Emissions from Erosion
From AP-42, Fourth Edition, Ch. 11.2.3 (5/83)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM PM10 PM2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E = Emission Factor (lb/acre/day)</td>
<td>0.0231</td>
<td>0.0231</td>
<td>0.0231</td>
</tr>
<tr>
<td>s = silt content (%)</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>p = days of rain equal to or greater than 0.01 inch</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>f = % of wind speed equal to or greater than 0.12 mph</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>sc = storage capacity (tons)</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>PTE = Potential to Emit (ton/yr)</td>
<td>9.68E-06</td>
<td>9.68E-06</td>
<td>9.68E-06</td>
</tr>
</tbody>
</table>

#### Transportation Emissions from Unpaved Roads
From AP-42, Ch. 13.2.2 (11/06)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM PM10 PM2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ef = particulate emission factor (lb/VMT)</td>
<td>8.25</td>
<td>2.57</td>
<td>0.26</td>
</tr>
<tr>
<td>k = empirical constant (lb/VMT)</td>
<td>4.9</td>
<td>1.5</td>
<td>0.15</td>
</tr>
<tr>
<td>a = empirical constant</td>
<td>0.7</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>b = empirical constant</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
</tr>
<tr>
<td>s = surface material silt content (%)</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>W = mean weight of vehicles traveling the road (tons)</td>
<td>8.44</td>
<td>8.44</td>
<td>8.44</td>
</tr>
<tr>
<td>VMT/yr = vehicle miles traveled per year</td>
<td>1095.0</td>
<td>1095.0</td>
<td>1095.0</td>
</tr>
<tr>
<td>PTE = Potential to Emit (ton/yr)</td>
<td>4.52</td>
<td>1.41</td>
<td>0.14</td>
</tr>
</tbody>
</table>

VMT Estimate = 0.25 trip/hr x 0.25 mile/trip x 2 (round trip) x 8760 hr/yr
**Appendix A: Emissions Calculations**

**SP2: Feed Floor Storage Pile**

**Company Name:** Grain Processing Corporation  
**Source Location:** 1443 S 300 W, Washington, IN 47501  
**Title V Operating Permit Renewal No.:** T027-42694-00046  
**Reviewer:** Tamera Wessel

<table>
<thead>
<tr>
<th>Activity</th>
<th>PTE (ton/yr)</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading and Unloading</td>
<td></td>
<td>0.43062</td>
<td>0.20367</td>
<td>0.03084</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td>1.01E-03</td>
<td>1.01E-03</td>
<td>1.01E-03</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>0.43</td>
<td>0.20</td>
<td>0.03</td>
</tr>
</tbody>
</table>

### Loading and Unloading from Storage Piles
From AP-42, Chapter 13.2.4

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>E = Emission Factor (lb/ton)</td>
<td>0.0010</td>
<td>0.0005</td>
<td>0.00007</td>
<td>[ E = \text{k} \left(0.0032 \right) \times \left(\frac{U}{5}\right)^{1.3} / \left(\frac{M}{2}\right)^{1.4}, \text{Ch. 13.2.4, eqn (1)} ]</td>
</tr>
<tr>
<td>k = particle size multiplier</td>
<td>0.74</td>
<td>0.35</td>
<td>0.053</td>
<td>As provided in Ch. 13.2.4</td>
</tr>
<tr>
<td>U = mean wind speed (mph)</td>
<td>9.8</td>
<td>9.8</td>
<td>9.8</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>M = material moisture content (%)</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>MT = Material Transferred (ton/hr)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>PTE = Potential to Emit (ton/yr)</td>
<td>0.43062</td>
<td>0.20367</td>
<td>0.03084</td>
<td>[ PTE = E \times MT \times (1 \text{ ton/2000 lb}) \times (8760 \text{ hr/yr}) ]</td>
</tr>
</tbody>
</table>

### Fugitive Emissions from Erosion
From AP-42, Fourth Edition, Ch. 11.2.3 (5/83)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>E = Emission Factor (lb/acre/day)</td>
<td>0.0463</td>
<td>0.0463</td>
<td>0.0463</td>
<td>[ E = 1.7*(s/1.5)<em>(365-p)/235</em>(f/15), \text{AP-42, Fourth Edition, Ch. 11.2.3 (5/83)} ]</td>
</tr>
<tr>
<td>s = silt content (%)</td>
<td>0.04</td>
<td>0.04</td>
<td>0.04</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>p = days of rain equal to or greater than 0.01 inch</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>f = % of wind speed equal to or greater than 12 mph</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>sc = storage capacity (tons)</td>
<td>1300</td>
<td>1300</td>
<td>1300</td>
<td>Provided by Permittee</td>
</tr>
<tr>
<td>PTE = Potential to Emit (ton/yr)</td>
<td>1.01E-03</td>
<td>1.01E-03</td>
<td>1.01E-03</td>
<td>[ PTE = E \times sc \times (40 \text{ cf/ton}) \times (1 \text{ ton/2000 lb}) \times (1 \text{ acre/43650 sq ft}) \times (1/10 \text{ ft}) \times (365 \text{ day/yr}) ]</td>
</tr>
</tbody>
</table>
### Appendix A: Emissions Calculations

Natural Gas Combustion Only

#### Company Name:
Grain Processing Corporation

#### Source Location:
1443 S 300 W, Washington, IN 47501

#### Title V Operating Permit Renewal No.:
T027-42694-00046

#### Reviewer:
Tamera Wessel

<table>
<thead>
<tr>
<th>Heat Input Capacity</th>
<th>Potential Throughput</th>
</tr>
</thead>
<tbody>
<tr>
<td>mmBTU/hr</td>
<td>MMCF/yr</td>
</tr>
<tr>
<td>5.32</td>
<td>1020</td>
</tr>
<tr>
<td></td>
<td>45.7</td>
</tr>
</tbody>
</table>

#### Natural Gas Combusction Only

### Potential Emissions

#### Pollutant Emissions

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.04</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>0.17</td>
</tr>
<tr>
<td>direct PM2.5*</td>
<td>7.6</td>
<td>0.17</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.01</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>2.28</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.13</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>1.92</td>
</tr>
</tbody>
</table>

**PM emission factor is filterable PM only, PM10 emission factor is filterable and condensable PM10 combined.**

**PM2.5 emission factor is filterable and condensable PM2.5 combined.**

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32**

#### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

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

#### Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>HAPs - Organics</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>4.8E-05</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
<td>2.7E-05</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
<td>1.7E-03</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
<td>0.04</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
<td>7.8E-05</td>
</tr>
<tr>
<td>Total - Organics</td>
<td></td>
<td>0.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HAPs - Metals</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>1.1E-05</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
<td>2.5E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
<td>3.2E-05</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
<td>8.7E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
<td>4.8E-05</td>
</tr>
<tr>
<td>Total - Metals</td>
<td></td>
<td>1.3E-04</td>
</tr>
</tbody>
</table>

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.
## Appendix A: Emissions Calculations

### Natural Gas Combustion Only

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Grain Processing Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>1443 S 300 W, Washington, IN 47501</td>
</tr>
<tr>
<td>Title V Operating Permit Renewal No.:</td>
<td>T027-42694-00046</td>
</tr>
<tr>
<td>Reviewer:</td>
<td>Tamera Wessel</td>
</tr>
<tr>
<td><strong>HHV</strong> mmBtu</td>
<td>mmscf (1020)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/MMCF</td>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.6</td>
<td>100</td>
<td>5.5</td>
<td>84</td>
</tr>
<tr>
<td>Potential Throughput (MMCF/yr)</td>
<td>2.15</td>
<td>2.04E-03</td>
<td>8.16E-03</td>
<td>8.16E-03</td>
<td>6.44E-04</td>
<td>0.11</td>
<td>5.90E-03</td>
</tr>
</tbody>
</table>

**see below**

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

### Hazardous Air Pollutants (HAPs)

#### HAPs - Organics

<table>
<thead>
<tr>
<th>HAPs - Organics</th>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
<th>Total - Organics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/MMCF</td>
<td>2.1E-03</td>
<td>1.2E-03</td>
<td>7.5E-02</td>
<td>1.8E+00</td>
<td>3.4E-03</td>
<td>3.4E-03</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>1.7E-04</td>
<td>9.9E-05</td>
<td>6.2E-03</td>
<td>0.15</td>
<td>2.80E-04</td>
<td>0.16</td>
</tr>
</tbody>
</table>

#### HAPs - Metals

<table>
<thead>
<tr>
<th>HAPs - Metals</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>Total - Metals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/MMCF</td>
<td>5.0E-04</td>
<td>1.1E-03</td>
<td>1.4E-03</td>
<td>3.8E-04</td>
<td>2.1E-03</td>
<td>4.5E-04</td>
</tr>
<tr>
<td>Potential Emission in tons/yr</td>
<td>4.1E-05</td>
<td>9.1E-05</td>
<td>1.2E-04</td>
<td>3.1E-05</td>
<td>1.7E-04</td>
<td>4.5E-04</td>
</tr>
</tbody>
</table>

Methodology is the same as above.

Total HAPs = 0.16

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**PM2.5 emission factor is filterable and condensable PM2.5 combined.

*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

- **MMBtu = 1,000,000 Btu**
- **MMCF = 1,000,000 Cubic Feet of Gas**

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

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

Methodology is the same as above.

Total HAPs = 0.16

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.
Appendix A: Emissions Calculations

Unpaved Roads

The following calculations determine the amount of emissions created by unpaved roads, based on AP-42, Ch. 13.2.2 (11/2006)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>( Ef = \frac{\text{particulate emission factor}}{\text{VMT}} )</td>
<td>8.62</td>
<td>2.46</td>
<td>0.25</td>
<td>( k \times \left( \frac{s}{12} \right)^a \times \left( \frac{W}{3} \right)^b ), Ch. 13.2.2, eqn (1a)</td>
</tr>
<tr>
<td>( k ) = empirical constant (lb/VMT)</td>
<td>4.9</td>
<td>1.5</td>
<td>0.15</td>
<td>Table 13.2.2-2</td>
</tr>
<tr>
<td>( a ) = empirical constant</td>
<td>0.7</td>
<td>0.9</td>
<td>0.9</td>
<td>Table 13.2.2-2</td>
</tr>
<tr>
<td>( b ) = empirical constant</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
<td>Table 13.2.2-2</td>
</tr>
<tr>
<td>( s ) = surface material silt content (%)</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>Table 13.2.2-1 for construction sites</td>
</tr>
<tr>
<td>( W ) = mean weight of vehicles traveling the road (tons)</td>
<td>18.0</td>
<td>18.0</td>
<td>18.0</td>
<td>Provided by the source</td>
</tr>
<tr>
<td>( \text{VMT/yr} ) = vehicle miles traveled per year</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>Provided by the source</td>
</tr>
<tr>
<td>( \text{PTE} = \text{Potential to Emit (ton/yr)} )</td>
<td>0.86</td>
<td>0.25</td>
<td>0.02</td>
<td>( \text{Ef (lb/VMT) x VMT/yr x (1 ton/2000 lb)} )</td>
</tr>
</tbody>
</table>

Taking natural mitigation due to precipitation into consideration:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{Eext} = \frac{\text{particulate emission factor extrapolated for natural mitigation (lb/VMT)}}{\text{VMT/yr}} )</td>
<td>5.86</td>
<td>1.67</td>
<td>0.17</td>
<td>( \text{Ef[(365-P)/365]}, \text{Ch. 13.2.2, eqn (2)} )</td>
</tr>
<tr>
<td>( P ) = number of days in a year with at least 0.01 in of precipitation</td>
<td>117</td>
<td>117</td>
<td>117</td>
<td>Based on Figure 13.2.2-1</td>
</tr>
<tr>
<td>( \text{PTE} = \text{Potential to Emit (ton/yr)} )</td>
<td>0.59</td>
<td>0.17</td>
<td>0.02</td>
<td>( \text{Eext (lb/VMT) x VMT/yr x (1 ton/2000 lb)} )</td>
</tr>
</tbody>
</table>
Appendix A: Emissions Calculations

Paved Roads

Company Name: Grain Processing Corporation
Source Location: 1443 S 300 W, Washington, IN 47501
Title V Operating Permit Renewal No.: T027-42694-00046
Reviewer: Tamera Wessel

The following calculations determine the amount of emissions created by paved roads, based on AP-42, Ch. 13.2.1 (1/2011)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>Source/Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ef = particulate emission factor (lb/VMT)</td>
<td>0.312</td>
<td>0.062</td>
<td>0.015</td>
<td>= k*(sL^0.91)*(W^1.02), Ch. 13.2.1, eqn (1)</td>
</tr>
<tr>
<td>k = particle size multiplier (lb/VMT)</td>
<td>0.011</td>
<td>0.0022</td>
<td>0.00054</td>
<td>Table 13.2.1-1</td>
</tr>
<tr>
<td>sL = road surface silt loading (g/m²)</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>Table 13.2.1-3 for corn wet mills</td>
</tr>
<tr>
<td>W = average weight of vehicles traveling the road (tons)</td>
<td>24.43</td>
<td>24.43</td>
<td>24.43</td>
<td>See table below</td>
</tr>
<tr>
<td>VMT/yr = vehicle miles traveled per year</td>
<td>79451.01</td>
<td>79451.01</td>
<td>79451.01</td>
<td>See table below</td>
</tr>
</tbody>
</table>

Uncontrolled PTE = Uncontrolled Potential to Emit (ton/yr)
= Ef (lb/VMT) x VMT/yr x (1 ton/2000 lb)

Control: Periodic sweeping (% Control)

Controlled PTE = Controlled Potential to Emit (ton/yr)
= Uncontrolled PTE x (1 - Control)

| Vehicle Type | Avg Weight of (tons) | Avg Weight of Number of Round Trip Vehicle Miles Traffic Component (%) |
|--------------|----------------------|-----------------------------|-----------------------------|-----------------------------|
| Corn Trucks  | 25                   | 36865                       | 1.65                        | 60827.25                   | 76.6%                       |
| Alcohol Trucks | 18                  | 5110                        | 1.01                        | 5161.1                     | 6.5%                        |
| Maltodextrin Trucks | 23            | 2628                        | 1.67                        | 4388.76                    | 5.5%                        |
| Meal Trucks  | 25                   | 365                         | 1.13                        | 412.45                     | 0.5%                        |
| Feed Trucks  | 25                   | 7665                        | 1.13                        | 8661.45                    | 10.9%                       |

Total 24.43 79451.01

*Provided by the source
Vehicle Miles Traveled (VMT) (mi/yr) = Maximum Number of Trips (trips/yr) x Round Trip Distance (mi/trip)
Traffic Component (%) = Vehicle Miles Traveled / Total Vehicle Miles Traveled
Total Avg Weight of Vehicles (W) (tons) = where i = Vehicle Type
January 12, 2021

Wendy Bouvier
Grain Processing Corporation
1443 South County Road 300 West
Washington, IN 47501

Re: Public Notice
Grain Processing Corporation
Permit Level: Title V - Renewal
Permit Number: 027-42694-00046

Dear Ms. Wendy Bouvier:

Enclosed is the Notice of 30-Day Period for Public Comment for your draft air permit.

Our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person. The Notice of 30-Day Period for Public Comment has also been sent to the OAQ Permits Branch Interested Parties List and, if applicable, your Consultant/Agent and/or Responsible Official/Authorized Individual.

The preliminary findings, including the draft permit, technical support document, emission calculations, and other supporting documents, are available electronically at:

IDEM's online searchable database: [http://www.in.gov/apps/idem/caats/](http://www.in.gov/apps/idem/caats/) . Choose Search Option by Permit Number, then enter permit 42694

and

IDEM's Virtual File Cabinet (VFC): [http://www.IN.gov/idem](http://www.IN.gov/idem). Enter VFC in the search box, then search for permit documents using a variety of criteria, such as Program area, date range, permit #, Agency Interest Number, or Source ID.

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](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 Washington-Carnegie Public Library, 300 West Main Street in Washington, IN 47501. 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 draft permit 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 Tamera Wessel, 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 4-8530 or dial (317) 234-8530.

Sincerely,

Kathy Bourquein

Kathy Bourquein
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter access via website 8/10/2020
January 12, 2021

To: Washington-Carnegie 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: Grain Processing Corporation
Permit Number: 027-42694-00046

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

January 12, 2021
Grain Processing Corporation
027-42694-00046

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 Joanne Smiddie-Brush with the Air Permits Administration Section at 1-800-451-6027, ext. 3-0185 or via e-mail at JBRUSH@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.

Enclosure
PN AAA Cover Letter 2/28/2020
AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

January 12, 2021

A 30-day public comment period has been initiated for:

Permit Number: 027-42694-00046
Applicant Name: Grain Processing Corporation
Location: Washington, Daviess 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.
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<th>R.R. Fee</th>
<th>S.D. Fee</th>
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<th>Rest. Del. Fee</th>
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<td>1</td>
<td></td>
<td>Wendy Bouvier  Grain Processing Corporation 1443 S CR 300 W Washington IN 47501 (Source CAATS)</td>
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<td>John Dudenhoeffer  Plant Manager  Grain Processing Corp 1443 S 300 W Washington IN 47501 (RO CAATS)</td>
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<td></td>
<td>Ms. Alice Hofmann c/o Ulrich Hofmann 2850 Classic Drive, Unit 2707 Highlands Ranch CO 80126-5805 (Affected Party)</td>
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<td>Mr. Jerry A. Church  Citizens State Bank P.O. Box 98 Petersburg IN 47567  (Affected Party)</td>
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<td>Mr. Larry Holscher  R. R. #4, Box 190 Vincennes IN 47591 (Affected Party)</td>
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<td>Mr. Dennis Carnahan  R. R. 3, Box 157A Vincennes IN 47591 (Affected Party)</td>
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<td>Mr. Daniel Alsman 1076 S 300 W Washington IN 47501  (Affected Party)</td>
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<td>Mr. Gerald Frette 2692 W 150 S Washington IN 47501  (Affected Party)</td>
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<td>Washington City Council and Mayors Office 101 N.E. 3rd St. Washington IN 47501  (Local Official)</td>
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<td>Daviess County Chamber of Commerce 1 Train Depot Washington IN 47501  (Affected Party)</td>
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<td>Mr. Steven M. Cox 700 S. E. 2nd Washington IN 47501  (Affected Party)</td>
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<td>Mr. David Cox Daviess County Growth Council 1 Depot Street Washington IN 47501  (Affected Party)</td>
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<td>Ms. Debbie Fidler 315 W. Viola Avenue Washington IN 47501  (Affected Party)</td>
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<th>Remarks</th>
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<td>Dr. Tom Miller Superintendent Washington Community Schools 301 East South Street Washington IN 47501 (Affected Party)</td>
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<td>Mr. Tim Pinkham Washington Times-Herald PO Box 471 Washington IN 47501-0471 (Affected Party)</td>
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<td>Mr. Steve Dyer 1412 State Street Washington IN 47501 (Affected Party)</td>
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<td>Holly Argiris Environmental Resources Management (ERM) 8425 Woodfield Crossing Blvd., #560-W Indianapolis IN 43240 (Consultant)</td>
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Total number of pieces Listed by Sender

Total number of Pieces Received at Post Office

Postmaster, Per (Name of Receiving employee)

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