RESPONSE TO COMMENTS

EL DORADO CHEMICAL COMPANY
PERMIT #0573-AOP-R17
AFIN: 70-00040

On March 9, 2016, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, written comments on the draft permitting decision were submitted by Tom Hudson of HSG Environmental on behalf of the facility. The Department's response to these issues follows.

Note: The following page numbers and condition numbers refer to the draft permit. These references may have changed in the final permit based on changes made during the comment period.

Comment 1: Please make the following changes to Specific Condition #6 and Specific Condition #8:

a) Change the compliance demonstration mechanism from Specific Condition #11 to Specific Condition #10. Specific Condition #11 requires ammonia testing. Specific Condition #10 requires a NO_x monitor. Both conditions limit NO_x emissions, so the compliance demonstration mechanisms should be directly related.

b) Change the expression of the limit in both conditions to "must continuously have NOx emissions that do not exceed 3.0 lb/ton of weak-nitric acid production *(100 % nitric acid basis)* on a 3-hour rolling average excluding startup, shutdown, and malfunction." This is consistent with the limits in NSPS Subpart G, the federal consent decree, and the language in Specific Conditions #1, #4, #7, #9, #17, #20, #22, #23, #37, #39, #80, and #259.

Response: The Department agrees. The requested changes were made.

Comment 2: Please change Specific Condition #12 to indicate that startups, shutdowns, and malfunctions are excluded from the limit. This is an NSPS Subpart G limit. The federal consent decree, at Attachment C, states, in part, "The NSPS NOx Emissions Limit does not apply during periods of Startup, Shutdown, or Malfunction."

Response: The Department agrees. The requested change was made.

Comment 3: Please correct the reference in Specific Condition #24 to refer to Specific Condition #23 (instead of Specific Condition #24). This appears to be a typographical error.

Response: The Department agrees. The requested change was made.

Comment 4: Please amend Specific Condition #37 to indicate that the demonstration period begins on the date the permit is final. As currently written, this condition does not indicate when the demonstration period begins.

Response: Comment 19 asks for much more detail about rewording this condition. The response is addressed there.

Comment 5: Please amend Specific Condition #37 to reflect that the units for both the interim and final BACT limits for NO_x are lb/ton, not lb/hr per ton. This appears to be a typographical error as it does not reflect the limits proposed in the application.

Response: The Department agrees. The requested change was made.

Comment 6: Please add the following language to Specific Condition #41, so that it is consistent with other testing conditions in the draft permit, and so that it is consistent with the Statement of Basis:

"Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility again demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may again perform stack testing once every 60 months."

Response: The Department agrees. The requested change was made.

Comment 7: Please correct the compliance references in Specific Conditions #106, #107, #115, #119, #120, #122, #123, #125, #126, #257, #265, and #266 to either remove the "Error! Reference source not found" messages or to replace them with the appropriate numerical reference number.

Response: The Department agrees. The requested change was made.

Comment 8: Please clarify Specific Condition #110, #133, and #138, by changing the sentence that reads "When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months" to read "When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months." This clarification is necessary because these sources did not begin with 60 month testing, thus it is unclear that they would "return" to it.

Response: The Department agrees. The requested change was made.

Comment 9: Please change the testing requirement in Specific Condition #176 to be consistent with the testing requirement in Specific Condition #178 by adding "or another method approved by the Department in advance" to the sentence, "The stack test shall be performed using EPA Reference Method 25A for VOC." SN-50 is predicted to have a saturated emission stream, and if post-startup observation confirms that is the case, Method 25A cannot be performed. Until construction is complete and the source is evaluated, the proper test method cannot be determined. By changing the language as requested, the Department continues to have approval authority over any test method that may be used in the future for compliance demonstration purposes.

Response: The Department agrees. The requested change was made.

Comment 10: Please remove SN-41 and SN-63 from the daily opacity observation requirement in Plantwide Condition #9. SN-41 is the E2 Plant Chemical Steam Scrubber. SN-63 is the KT Plant Chemical Steam Scrubber. Both of these are "wet" stacks with significant steam emissions. This makes accurate opacity observations difficult, if not impossible. Accordingly, please change Specific Condition #108 to reference Specific Condition # 113 as the compliance demonstration mechanism. Change Specific Condition #146 to reference Specific Conditions #149 as the compliance demonstration mechanism.

Response: Reading the opacity of a "wet" stack's plume may be more difficult that a "dry" stack. However, Method 9 describes how to read the opacity of a plume whether wet or dry. The opacity observations were not removed. Readings were also changed in Plantwide Condition 9 to weekly for sources with 5% or less opacity limits. This is closer to the Department's standard requirements for sources with low opacity limits.

Comment 11: Please change "SN-35" in Plantwide Condition #9 to read "SN-35A" to be consistent with Specific Condition #267.

Response: The Department agrees. The requested change was made.

Comment 12: Please change the entry for SO_2 for SN-65 in the table in Specific Condition #282 to reflect that BACT is "ultra-low-sulfur fuel (sulfur less than or equal to 15 ppm) combustion only" (instead of natural gas combustion only) and the ton per year limit is 1.21 E-5 lb/hp-hr (instead of 1.21 E-5 lb/MMBtu heat input). Please also correct the units in the entry for CO for SN-65 in the table in Specific Condition #282. This condition should read 2.6 g/hp-hr (instead of 2.6 g/KW-hr). These changes are consistent with the BACT table on page 21 of the permit.

Response: The Department agrees. The requested change was made.

Comment 13: Please strike the word "Interim" from Specific Condition #283. This is not an interim condition.

Response: The Department agrees. The requested change was made.

Comment 14: Please remove the references to Regulation 19.901 from Specific Condition #148 and #149. These are not BACT limits because PSD review was not triggered for PM_{10} or $PM_{2.5}$, thus this source is not subject to BACT limits for these pollutants.

After viewing a pre-final permit EDCC added the following:

While EDCC appreciates the Department's recognition that the limits in question are not BACT limits, the Regulation 19.901 reference is not appropriate simply because SN-63 was one of the particulate matter emitting sources included in the netting analysis used to avoid PSD applicability for PM_{10} and $PM_{2.5}$. Based on our telephone communication with Tom Rheaume, it is our understanding that the ADEQ does not normally apply the Regulation 19.901 reference to the various emission sources included in a netting analysis, especially when the net project emissions do not trigger PSD review. Therefore, EDCC renews its comment on this issue and requests once again that the Specific Conditions #148 and #149 be amended as previously requested.

Response: Further review after the pre-final comment showed the emissions from that source were not a result of a reduction in emissions to net out as previously thought. The source was a new source. The 19.901 regulation citation was not necessary and was corrected to 19.501.

Comment 15: Please correct the annual ammonia production limit in Specific Condition #164. The correct value is 565,750 tons per rolling 12-month total. This correction is consistent with the rate applied for as a part of the modification and with the process description on page 6 of the draft permit.

Response: The Department agrees. The requested change was made.

Comment 16: Please correct the annual CO_2e emission limit for SN-50 in Specific Condition #173. The annual limit should be 2,000 tpy (instead of 1,000 tpy), per the calculations submitted with the application.

Response: The Department agrees. The requested change was made.

Comment 17: Please correct the annual methanol emission limit for SN-51 in Specific Condition # 180. The annual limit should be 28.2 tpy (instead of 21.2 tpy), per the calculations submitted with the application.

Response: The Department agrees. The requested change was made.

Comment 18: Specific Conditions #159, #193, #211, and #230 contain emission limits for SO_2, VOC, CO, and NO_x that represent values used to demonstrate that the facility would not cause or contribute to an exceedance of the NAAQS, and the appropriate regulatory reference for these limits is Regulation 19.501. An additional regulatory reference is proposed for these conditions (i.e., Regulation 19.901), which would establish these emission limits as PSD limits, or BACT compliance limits. The NAAQS compliance limits have also been incorporated into the permit conditions that represent the BACT compliance limits for those sources (i.e., Specific Conditions# 161, #195. #196, #197, 213, and #231), even though these NAAQS compliance limits were not established as BACT during the BACT review process. Additionally, the emission limits established as BACT and expressed as pounds of emissions per unit of production have been mathematically converted to a pound per hour value and included as an additional BACT limit, even though these mathematically equivalent values were not established as BACT during the BACT review process. These pound per hour values that were not found to be BACT during the BACT review process should be eliminated from the BACT emission table.

Referencing, thereby establishing, these mathematically equivalent emission limits in the NAAQS compliance limits as BACT limits, as well as the inclusion of NAAQS compliance limits as BACT limits in the BACT compliance limits was found to be inappropriate by the Commission on EDCC's appeal of Permit 0573-AOP-R16. The Commission's decision stated, *"The AU appreciates the fact that ADEQ must determine compliance with the NAAQS, but finds that, as a matter of law, compliance with the NAAQS is different from compliance with a BACT emission limit. The AU finds that it is not appropriate to establish as BACT an emission limit necessary to demonstrate compliance with the NAAQS."* Although the Commission made the above finding, the remand order did not completely implement the finding. During discussions related to implementing the Commission's decision, the ADEQ agreed, but expressed its inability to make permit revisions that were not specifically included in the remand portion of the decision without public notice and comment.

Accordingly, EDCC and the ADEQ agreed to defer all changes, including those specifically referenced in the remand portion of the order, to a formal permit modification process, with public notice and comment. However, the draft permit does not implement the Commission's decision rejecting the practice of *"establishing as BACT an emission limit necessary to demonstrate compliance with the NAAQS."* Accordingly, Specific Conditions #159, #161, #193, #195, #196, #197, #211, #213, #230, and #231 should read as follows: [See Comment].

Response: The PSD references of Specific Conditions 159, 193, 211, and 230 were replaced with "Reg.19.501 et seq. and 40 C.F.R. § 52 Subpart E". The limits in Specific Conditions 161, 195, 196, 197, 213, and 231requested to be removed were removed.

Comment 19: The non-table language in Specific Condition #37 states as follows:
"The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 39, 40, and 42. A 12-month demonstration period is to be implemented to determine whether the BACT emission limits for DWM #2 currently assigned by ADEQ can be achieved (5 ppm NOx, 6 ppm SSM NOx, and 30 ppm N_2O).
Accordingly the ALJ finds that the interim BACT limits for DMW #2 over the next 12 months, as proposed by EDCC, should be as follows:"

In the Commission's decision on EDCC's appeal of Permit 0573-AOP-R16, the ALJ stated:

"Because of the considerable uncertainties with respect to the achievability of the NOx and N20 emission limits established in the Permit as BACT in this case, the testimony and record demonstrate that EDCC has proven, by a preponderance of the evidence, that an adjustable BACT limit consistent with the demonstration period set forth in Avenal permit is appropriate. The ALJ finds, based on the testimony of Mr. Campbell and the exhibits provided by EDCC, and based on the testimony of Mr. Hurt that he and Mr. Rheaume believed adjustable BACT limits to be reasonable, that an adjustable BACT limit is permissible, legal, and warranted in this case." (emphasis added).

The permit language describing the demonstration period in the A venal permit to which the ALJ referred was cited in the decision as being provided during the testimony of witness Colin Campbell. The decision indicating that language is as follows:

"If, during the Demonstration Period, the Permittee determines that the CO limits in Conditions Permittee XC.3.i or XC.3.iii are not feasible, the Permittee shall submit an application to EPA prior to the end of the Demonstration Period requesting a revision of those limits. Such an application must contain data and information that demonstrates that the Facility was operated according to the design specifications and parameters, and the maintenance and performance optimization plan, identified above in Condition XC.3.a, as well as a technical justification explaining why the lower limits are not feasible. If, after the applicable review process following such a submission (which will include an opportunity for public review and comment), it is determined through data and information gathered during the Demonstration Period that different CO limits are necessary, the limits in Condition X C. 3. i and X C. 3. lll will be revised accordingly. Provided that the application specified in this condition is postmarked prior to the end of the Demonstration Period, the emission limits in Condition X C. 3. b shall remain in effict until EPA evaluates the application and makes a final decision regarding the revision of the limits in Conditions XC.3.i or XC.3.iii."

The ADEQ has failed to include a schedule that is consistent with the Avenal permit. Importantly, the Avenal permit schedule extends the interim limits until there is a final administrative decision on the application to amend the BACT limits following the Demonstration Period. The schedule in the draft permit does not extend the interim BACT limits while the application for modification is under review, which is not consistent with the Avenal permit schedule. The difference in the schedule effectively eliminates the adjustable BACT limit that was approved by the Commission, because the ADEQ's proposed schedule only defers the implementation of the BACT limit for a year. The ADEQ's proposal eliminates the time required to adjust the BACT limit through a permit modification before the BACT limit become enforceable, and effectively eliminates the possibility of an adjustment. Therefore, EDCC requests that the non-table language in Specific Condition #37 be revised, such that it is consistent with the Commission's decision and the schedule in Avenal, and suggests the following language:

"If, during the Demonstration Period, EDCC determines that the Final Limits for NOx, N20 and/or NH_3 are not feasible, EDCC shall submit an application to ADEQ prior to the end of the Demonstration Period requesting a revision of those limits. Such an application must contain data and information that demonstrates that EDCC operated the facility according to the design specifications and process and control equipment operating parameters recommended by the manufacturer, as well as a technical justification explaining why the Final Limits are not feasible. If, after the applicable review process following such a submission (which will include an opportunity for public review and comment), it is determined through data and information gathered during the Demonstration Period that different limits are necessary, the limits will be revised accordingly. Provided that the application specified in this condition is postmarked prior to the end of the Demonstration Period, the Interim Limits shall remain in effect until ADEQ issues a final permitting decision on the application. "

EDCC also believes that structure and specificity is required for the demonstration period, so that there can be no disagreement or confusion over whether EDCC properly utilized the demonstration period to set appropriate emissions limits. Therefore, EDCC requests that the following language, as proposed in the permit application, be added to Specific Condition #37, as well:

"For a period of twelve months (the Demonstration Period), which shall begin on the effective date of this permit, the Interim Limits will remain in effect. Following the expiration of the Demonstration Period, the Final Limits will be in effect unless revised as specified herein. Periods of excessive downtime (one month or greater) shall not count toward the twelve month Demonstration Period, which shall be extended accordingly, as may be necessary. The permittee shall pursue actions necessary and consistent with manufacturer recommendations to ensure proper operation of process and NO_x emissions control equipment at the DM Weatherly Nitric Acid Plant #2 and to ensure that NO_x emissions stay at or below 0.064 lb/ton of 100% acid produced on a rolling 30-day average basis, exclusive of emissions related to SSM, N_2O emissions stay at or below 90. 04 ton/yr, exclusive of emissions related to SSM, and NH_3 emissions stay at or below 2.64 lb/hr on a 3-hr average basis (based on stack testing), or as close to those limits as possible. During the Study Period, NOx and N_2O emissions during normal operating periods and during periods of SSM will be monitored to confirm/validate the best achievable, site specific and statistically based BACT Limits that include an appropriate margin of compliance assurance. During any operating period (i.e., SSM related and during normal operating periods) during the Demonstration Period when NOx emissions are above 0.064 lb/ton of 100% acid produced on a rolling 30-day average basis, and/or when N_2O emissions are above 90.04 ton/yr, the emission rate(s), operating practices/conditions at the time, and contributing factors, if discernable, shall be documented."

After viewing a prefinal version of the permit EDCC included the following.

Although "excessive downtime" was specifically defined as "periods of one month or greater," EDCC wishes to clarify that its obvious intent was to define excessive downtime as those periods of one month or greater <u>during which DMW-2 does not operate</u>. An exclusion of this nature is certainly enforceable. EDCC renews its request that such periods be excluded from the Demonstration Period, and that the Demonstration Period be extended accordingly based on that exclusion.

Response: The suggested language is vague and would be unenforceable as to "excessive downtime". Otherwise the Department agrees in principle to the language. The condition was reworded to allow 3 months after the demonstration period to submit an application to change the final BACT limit. The total allowed time is limited to 18 months from start-up of SN-59. The interim limits will stay in effect until the final permitting decision regarding the above mentioned application is made. The first paragraph of SC 37 shall read as follows:

> The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 39, 40, and 42. A 12-month demonstration period, commencing with start-up of SN-59, is to be implemented to determine whether the BACT emission limits for DWM #2 currently assigned by ADEQ can be achieved (5 ppm NO_x, 6 ppm SSM NO_x, and 30 ppm N_2O).

The interim BACT limits for DMW #2 over the next 12 months, as proposed by EDCC, shall be as follows. The permittee may submit an application to adjust its final BACT limit should it find the limit to be unachievable. This application must be submitted no later than 3 months after the demonstration period ends, but no later than 18 months after the start-up of SN-59. If the permittee submits an application to adjust these limits within 3 months after the demonstration period ends, the Interim BACT limits will apply until a final decision is made on that application. Should the permittee not submit an application by the deadline, the final BACT limit shall take effect 18 months after start-up of SN-59. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E] (Table omitted from response.)

The Department does not wish to write a demonstration period which could possibly extend forever. The way the condition is written EDCC could have 12 months of operation and 6 months of downtime before being required to submit a permit application. EDCC has not explained a specific issue which would necessitate any need for additional time. Should issues arise during operation, there are many options available to EDCC and the Department to extend this period if it is needed. The Department will review any requested extension based on the situation as it arises, but without any specific information provided with this comment the Department feels the 18 months written into the condition to be reasonable.

Comment 20: Plantwide Condition #11 states as follows:

"The permittee shall install, operate, and maintain ambient air monitor for NO_2. The permittee shall submit a monitoring protocol to the Department within 180days of the anticipated startup date of the affected sources from the PSD application for permit 0573-AOP-R16. The Department must approve of the monitoring protocol prior to installation of the monitors. The monitors shall be installed and operating within 180 days of the startup of the New Weak Nitric Acid Plant (SN-59) and the Ammonia Plant Primary Reformer (SN-49). [Regulation 19, §19.502 and §19.901; Regulation 26, §26.701; and 40 CFR Part 52 Subpart E)

This condition originally contained requirements for both an ambient ozone monitor and an ambient NO_2 monitor, but the requirements were stayed by the appeal. Both parties stipulated to the removal of the ozone monitor. The Commission directed that the requirement for the ozone monitor was to be removed, as stipulated. The Commission also found that the ADEQ could require EDCC to install an ambient NO_2 monitor which could, if necessary, be on EDCC's property. Subsequently, in a meeting on January 22, 2015, EDCC and the ADEQ agreed that all of the changes resulting from the appeal, along with other necessary modifications, would be incorporated into a single permit application submitted by EDCC, such that the changes underwent public notice and comment period. EDCC submitted the application in a timely fashion. However, due to the lapse in time between the appeal and permit issuance, the due dates and timeframes in the condition are no longer appropriate. The language in the original condition was carried over into the new condition in Draft Permit R17, and is awkward, at best. It requires that a monitoring protocol be submitted to ADEQ within 180 days of anticipated startup, which we now know will be in the next few weeks (approximately the same time the permit will become final and effective), such that the protocol will be due approximately six months after the effective date of the permit. The permit condition also requires that the protocol be approved by the ADEQ before installation can commence, but seems to require installation of the monitor when the protocol is submitted, prior to the ADEQ's approval of the protocol. Therefore, EDCC requests that the permit condition be amended to read as follows:

The permittee shall install, operate, and maintain an ambient air monitor for NO_2. The permittee shall submit a monitoring protocol to the Department within 180 days after the effective date of final Permit R17. If after reasonable efforts are made, it is not practical to locate the monitor on property owned or controlled by EDCC, then the NO_2 monitor may be located on property owned by EDCC at the time of permit issuance. The Department must approve of the monitoring protocol prior to installation of the monitor. The monitor shall be installed and operating within 180 days of the ADEQ 's approval of the monitoring protocol. [Regulation 19, §19.502 and §19.901; Regulation 26, §26. 701; and 40 CFR Part 52 Subpart E; Commission Minute Order 14-36]

Response: EDCC has known they would be required to install a NO_2 monitor since the Commission issued its minute order on 09/26/14. The intent of the original condition was to have the monitor operating when the sources were operating. The comment suggests the sources may be operating prior to the issuance of this permit. The Department will allow EDCC 60 days to submit a monitoring protocol and 180 additional days to install the monitor.

Comment 21: EDCC also requests multiple technical corrections to the Statement of Basis (SOB). The document issued with the draft permit that is being commented on herein contained a large number of conflicts with the draft permit itself. As a part of our comments, we are attaching a red-line/strikeout version of the SOB pointing out those errors and making the appropriate changes. With one exception, so as not to provide comments through a red-line/strikeout version alone, our comment/justification for every change requested is that these changes are necessary, so that the SOB is consistent with the draft permit. The one exception is that EDCC has requested elsewhere in its comments on the permit itself that the requirement for daily opacity monitoring for SN-41 and SN-63 be removed from the permit, and the compliance mechanism be changed. Therefore, the Opacity Table (at Number 16 in the Statement of Basis) has been amended consistent with those requests.

Finally, the SOB contains multiple factual errors and non-technical opinions that EDCC requests be removed. The basis for these requests is that the statements in question misstate the facts, are unprofessional, and lend nothing to explaining the technical basis for the permit conditions.

The draft SOB at Number 6: Reviewers Notes, states: *"To incorporate the consent decree and the decision of the appeal, EDCC submitted a redline strikeout version of the permit. This* Redline/strikeout *was difficult to follow, was not based on the facility's current permit, and did not include any justification for any of the requested changes. "*

EDCC makes no comment on the reviewer's ability to read and interpret the redline/strikeout version of a permit, but does wish to make the following points:

1. The red-line/strikeout version of the permit was accompanied by a separate list of requested changes that was a part of the application. Both the list of changes and the red-line/strikeout version contained justification for each change requested. The red-line/

strikeout version of the permit specified in the list of changes and at the top of each page of the red-line, in all caps, that it did not include every change requested in the application, but instead included only items from the Commission's decision on the permit appeal (Commission Minute Order 14-36) and changes associated with the federal consent decree. EDCC had previously provided a specific list of requested changes associated with the federal consent decree, as well.

2. The red-line/strikeout was created using the last version created by ADEQ Air Division staff and provided to EDCC as the agency's first attempt to incorporate the Commission's decision, which was identified as draft R17. EDCC's redline/strikeout version was created using the Department's own document, which was the basis of the agreement between the ADEQ and EDCC to submit a permit application to incorporate the changes directed by the Commission's decision in the first place.

3. HSG provided its contact information and EDCC's contact information in the permit application. At no time did the reviewer ever contact HSG to ask for clarification or to indicate that the reviewer was having difficulty understanding the red-line/strikeout version or needed additional information relative to the changes directed by the Commission's decision.

4. A red-line/strikeout is not a required part of a permit application. HSG prepared one for EDCC's use and provided it to the ADEQ as a courtesy, as they do in most large permit applications they submit. The reviewer was not required to use it and in fact, although some reviewers do request and use them, both he and his predecessor have previously told HSG that they do not. That is the specific reason the aforementioned list of requested changes, with justification for each one, was submitted.

Please remove this unnecessary, inaccurate, and unprofessional statement.

The draft SOB at Number 6: Reviewers Notes, states:
"The facility requested additionally to remove the conditions for NSPS Subpart G *for SN-08, SN-09 and SN-13. The facility provided no explanation for their removal. The facility has a consent decree which states they are subject to the NSPS and must comply with all applicable standards. The Title V permit is required to have all applicable provisions. The Consent Decree and CEMs Plan with it did not remove Subpart* G *requirements it only modified monitoring and compliance requirements. The requirements still apply but not as stated in the subpart alone. The conditions were modified to include the changes in the Consent Decree which supersede the subpart.* "

EDCC did not ask to remove the conditions of NSPS Subpart G for SN-08, SN-09, and SN-13. In point of fact, we specifically requested that NSPS G be included for SN-08 and SN-09 in order to comply with the federal consent decree. Additionally, Attachment C of the federal consent decree (referred to below as the CEMS Plan) is a part of the permit based on a request in our permit application. That document specifically requires compliance with Subpart G. There are nine specific conditions in the permit that reference NSPS Subpart G as the basis of their authority. EDCC's comment dealt with only four of those. What EDCC was asking to be removed were conditions that directly conflicted with Attachment C (the CEMS Plan) of the permit. In EDCC's pre-draft comments, the following request was made:

Specific Conditions 13, 14, 27, and 28 should be removed from the permit. While these are NSPS Subpart G *requirements, the CEMS Plan attached to the federal consent decree and incorporated into the permit supersedes certain requirements of Subpart* G, *as stated below:*
In addition to the requirements in this CEMS Plan, Settling Defendants also will comply with all of the requirements of the NSPS relating to monitoring at each Operating Nitric Acid Plant except that, pursuant to 40 C.F.R. §60.13(i), this CEMS Plan will supersede the following provisions of 40 C.F.R. Part 60, Subpart G:

- *The requirement at 40 C.F.R. §60. 73(a) that the NOx stack analyzers have a normal span value of 500 ppm. In lieu of this, Settling Defendants will utilize the span values specified in Table 1 of this CEMS Plan; and,*
- *The requirement at 40 C.F.R. § 60. 73(a) that pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 C.F.R. §60.13(d) be nitrogen dioxide (N02). Settling Defendants will use calibration gases containing NO and/or N02, as appropriate to assure accuracy of the NOx Stack Analyzers except where verified reference cells are used in accordance with Performance Specification 2.*
- *The requirement at 40 C.F.R. §60. 73(b) that the conversion factor be developed/expressed in the units of lb NOx per ton of 100% nitric acid produced per ppm. In lieu of this requirement, Settling Defendants will develop/express the conversion factor in the units of lb NOx per ton of 100% nitric acid produced per lb/hr NOx.*

As a result of EDCC's comment, the agency completely rewrote the Specific Conditions in question, so that they referred to the CEMS Plan (which itself contains the correct permit requirements), thereby essentially creating two duplicate permit requirements. Please remove the false assertion that EDCC asked that the NSPS Subpart G conditions be removed for SN-08, SN-09, and SN-13.

The draft SOB at Number 6: Reviewers Notes, states:

"EDCC specifically requested wording for SN-59 which was outside the commission's decision on the appeal of the previous permit. The commission's decision stated an interim BACT limit and then a final BACT limit which applies after 12 months unless the limit is modified. EDCC had requested that the facility be given till 90 days after the 12 months interim period to submit an application to change the limit and the interim limit would apply until after the final permit is issued. The commissions Minute Order simply states simply that the final BACT limit applies unless modified. The facility would be capable of submitting an application prior to the end of the 12 month period to change the limit and also could obtain a variance to prevent the final BACT limit from taking effect. Therefore, the wording requested by the facility was not used. The direct text from the minute order was added per the Commission's Decision. "

The statement made by the reviewer is (1) not true, and (2) even if it were true, it does not matter because what permit revisions EDCC can request in a permit application are not limited by the Commission's decision. The Commission's decision either struck down certain items the ADEQ had included in the permit or allowed what had already been included. The decision set a baseline for what the ADEQ could do, but it did not restrict them from granting additional requests EDCC might make in the agreed upon permitting process to incorporate the Commission's decision.

EDCC's request was consistent with the Commission's decision. The Department completely ignores what the ALJ specifically stated as the intent of his order in the "Discussion and Conclusions of Law" section of the decision. The Department claims that the ALJ granted a 12-month demonstration period, with no other explanation of what that entailed. By ignoring the "Discussion and Conclusions of Law" section of the decision, the Department constructed a permit condition that requires EDCC to conduct a study, submit a permit application, and receive a final permit prior to the end of the demonstration period. This is not at all consistent with the Commission's decision, which states,

Because of the considerable uncertainties with respect to the achievability of the NOx and N_2O emission limits established in the Permit as BACT in this case, the testimony and record demonstrate that EDCC has proven, by a preponderance of the evidence, that an adjustable BACT limit consistent with the demonstration period set forth in Avenal permit is appropriate. The ALJ finds, based on the testimony of Mr. Campbell and the exhibits provided by EDCC, and based on the testimony of Mr. Hurt that he and Mr. Rheaume believed adjustable BACT limits to be reasonable, that an adjustable BACT limit is permissible, legal, and warranted in this case.

The Avenal permit states (as cited in the Commission's decision),

If, during the Demonstration Period, the Permittee determines that the CO limits in Conditions X C. 3. i or X C. 3. iii are not feasible, the Permittee shall submit an application to EPA prior to the end of the Demonstration Period requesting a revision of those limits. Such an application must contain data and information that demonstrates that the Facility was operated according to the design specifications and parameters, and the maintenance and performance optimization plan, identified above in Condition XC.3.a, as well as a technical justification explaining why the lower limits are not feasible. If, after the applicable review process following such a submission (which will include an opportunity for public review and comment), it is determined through data and information gathered during the Demonstration Period that different CO limits are necessary, the limits in Condition X C. 3. i and X C. 3. iii will be revised accordingly. Provided that the application specified in this condition is postmarked prior to the end of the Demonstration Period, the emission limits in Condition X C. 3. b shall remain In effect until EPA evaluates the application and makes a final decision regarding the revision of the limits in Conditions X C. 3. i or X C. 3. iii.

EDCC requested the following language as a portion of the Demonstration Period requirement:

If, during the Demonstration Period, EDCC determines that the Final Limits for NOx, $N_2O$and/or NH_3 are not feasible, EDCC shall submit an application to ADEQ no later than 90 days after the end of the Demonstration Period requesting a revision of those limits. Such an application must contain data and information that demonstrates EDCC operated the facility according to the design specifications and process and control equipment operating parameters recommended by the manufacturer, as well as a technical justification explaining why the Final limits are not feasible. If, after the applicable review process following such a submission (which will include an opportunity for public review and comment), it is determined through data and information gathered during the Demonstration Period that different limits are necessary, the *limits will be revised accordingly. Provided that the application specified in this condition is postmarked no later than 90 days after the end of the Demonstration Period, the Interim Limits shall remain in effect until the final administrative decision on the application. Amended pursuant to Commission Minute Order 14-3 6.*

EDCC simply requested an additional 90 days to submit an application to take advantage of all data gathered during the 12-month demonstration period. EDCC was not limited to requesting only the time allowed in Avenal, but the Department was required to grant at least the amount of time allowed in Avenal, and it did not. By failing to include the allowance in the last sentence of the citation above, it failed to comply with the Commission's order. At most, the ADEQ should have denied the additional 90 days. The ADEQ's claim that EDCC could request a variance at the end of the demonstration period is completely disingenuous and provides no guarantee of compliance assurance to EDCC. Please remove the misleading statement that EDCC requested wording for SN-59, which was outside the Commission's decision on the appeal.

Response: The Department reviewed the requested changes and made the changes necessary to make the SOB consistent with the final permit.

ADEQ
ARKANSAS
Department of Environmental Quality

June 23, 2016

Kelly Olivier
Environmental, Health and Safety Manager
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71730

Dear Mr. Olivier:

The enclosed Permit No. 0573-AOP-R17 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 8/12/2015.

After considering the facts and requirements of A.C.A. §8-4-101 et seq. as referenced by §8-4-304, and implementing regulations, I have determined that Permit No. 0573-AOP-R17 for the construction and operation of equipment at El Dorado Chemical Company shall be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,

Stuart Spencer
Associate Director, Office of Air Quality

Enclosure: Final Permit

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK / ARKANSAS 72118-5317 / TELEPHONE 501-682-0744 / FAX 501-682-0880
www.adeq.state.ar.us

ADEQ
OPERATING
AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 0573-AOP-R17

IS ISSUED TO:

El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730
Union County
AFIN: 70-00040

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

June 23, 2016 AND June 22, 2021

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Stuart Spencer
Associate Director, Office of Air Quality

June 23, 2016
Date

Table of Contents

List of Acronyms and Abbreviations

Ark. Code Ann.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
PM	Particulate Matter
PM_{10}	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE:	El Dorado Chemical Company
AFIN:	70-00040
PERMIT NUMBER:	0573-AOP-R17
FACILITY ADDRESS:	4500 North West Avenue El Dorado, AR 71730
MAILING ADDRESS:	P.O. Box 231 El Dorado, AR 71730
COUNTY:	Union County
CONTACT NAME:	Kelly Olivier
CONTACT POSITION:	Environmental, Health and Safety Manager
TELEPHONE NUMBER:	(870) 863-1125
REVIEWING ENGINEER:	Shawn Hutchings
UTM North South (Y):	Zone 15: 3680583.92 m
UTM East West (X):	Zone 15: 529356.41 m

SECTION II: INTRODUCTION

Summary of Permit Activity

El Dorado Chemical Company (EDCC) owns and operates a chemical manufacturing facility located at 4500 North West Avenue in El Dorado, Arkansas. This permit is the Title V renewal for the facility. It also incorporates some changes to the PSD project of the previous permit. Specifically, an emergency generator (SN-66) and E2/KT Product Blending (SN-67) were added. The engine for SN-65 was replaced with a new engine. Emissions for SN-49, 50, and 51 were updated. Emissions for SN-64 were updated. An additional vent was added to the Magnesium Oxide Silo, SN-25B. Source SN-48 was removed. This modification also incorporates changes to resolve the issues of the appeal of the previous permit, and incorporates necessary requirements of the facility's consent decree with the US Department of Justice and the US Environmental Protection Agency (DOJ/EPA), Civil Action CIV-14-271-F, which was filed on May 28, 2014. Permitted emissions increased 1.2 tpy of particulate matter, 6.6 tpy of PM_{10} and $PM_{2.5}$ and less than 1 ton each of sulfuric and nitric acid. Permitted emissions of other pollutants remained unchanged or decreased.

Process Description

EDCC owns and operates a chemical manufacturing facility located in El Dorado (Union County), Arkansas. EDCC manufactures ammonia; nitric acid (various strengths ranging from 48% to 98.5%); sulfuric acid (93.0% and 98.0% strengths); high-density grade ammonium nitrate (nitrogen fertilizer for agricultural use) and low-density grade ammonium nitrate (for use in industrial applications). The main individual manufacturing processes at EDCC are described below.

Ammonia Plant

EDCC will install a newly acquired ammonia plant to operate at a maximum design capacity of 1,550 tons of ammonia production per day, or 565,750 tons per year. The plant produces anhydrous ammonia by reacting hydrogen with nitrogen over a catalyst at high temperature and pressure to form ammonia (NH_3). The plant is equipped with a gas-fired primary reformer with a maximum heat input capacity of 824 MMBtu/hr. The reformer is fired with a combination of pipeline quality natural gas and process off-gas (purge gas).

The process begins with three common substances: natural gas, air, and water. To produce ammonia, these substances are combined in a high temperature environment in the presence of a catalyst to chemically react to form a gas stream consisting primarily of hydrogen, nitrogen, carbon monoxide, carbon dioxide and other gases. Using a series of catalysts and chemical solutions, all gases are removed with the exception of hydrogen and nitrogen. The commingled hydrogen and nitrogen, called synthesis gas, react under high pressure and in the presence of a catalyst to form ammonia gas. The ammonia gas is cooled by refrigeration and condensed to a liquid. EDCC uses this ammonia as a feedstock for its nitric acid and ammonium nitrate production processes. Excess ammonia is sold as product in trucks, railcar and through an ammonia pipeline.

Nitrogen for the production process is obtained from ambient air, while hydrogen is obtained from catalytic steam reforming of methane contained in natural gas. The process uses approximately 21,250 standard cubic feet of natural gas per ton of ammonia produced. The catalytic steam reforming method produces ammonia through six required steps:

1. Natural gas desulfurization
2. Catalytic steam reforming
3. Carbon monoxide shift
4. Carbon dioxide removal
5. Methanation
6. Ammonia synthesis ($3H_2 + N_2 \rightarrow 2NH_3$)

Natural Gas Desulfurization

Sulfur is a poison to many catalysts used in the ammonia synthesis process. The desulfurization process uses a catalyst to remove the sulfur contained in the natural gas feedstock.

Catalytic Steam Reforming

After desulfurization, the natural gas feed is mixed with steam and the mixture is sent to the primary reformer (SN-49). This process uses indirect heating produced by firing with a combination of pipeline quality natural gas and process off-gas (purge gas). In the reforming process, approximately 56% of the methane contained in the natural gas feed is converted to hydrogen and carbon dioxide. The resulting gas mixture is then sent to a secondary reformer, where it is mixed with compressed air to form a final "synthesis gas" that has the desired hydrogen to nitrogen molar ratio. This is an exothermic reaction that does not need an external source of heat. The synthesis gas leaving the reformer is cooled, and the heat recovered, in the Feed Gas Preheater.

Carbon Monoxide Shift

Carbon monoxide is formed as a byproduct in the catalytic steam reforming process. After cooling, the carbon monoxide and water contained in the synthesis gas are converted to carbon dioxide and hydrogen in the High Temperature Shift Converter. Unreacted steam is condensed and separated from the synthesis gas in a knockout drum, and the condensate is flashed in the Condensate Steam Stripper (SN-50) to remove volatile gases. The residual condensate is returned to the boiler or may be temporarily held in the deaerator until ready for use as feed water to the boiler.

Carbon Dioxide Removal

After the carbon monoxide shift, the carbon dioxide is removed from the process gas by sending the synthesis gas through an absorption tower where methyl diethanolamine (MDEA) is used to strip the carbon dioxide out of the gas. Carbon dioxide is removed from the MDEA in a stripper column (CO_2 Regenerator), where it is vented to the atmosphere (SN-51).

Methanation

The synthesis gas leaving the carbon dioxide absorber consists primarily of uncombined hydrogen and nitrogen, with residual amounts of carbon dioxide and carbon monoxide. Carbon dioxide and carbon monoxide are poisons to ammonia synthesis catalysts and must be removed. This is accomplished by passing the heated process gas over a catalyst, where the carbon dioxide and carbon monoxide are converted to methane.

Ammonia Synthesis

In the final step, the hydrogen and nitrogen-rich synthesis gas is converted to ammonia. The process is not 100% efficient, and some of the unconverted synthesis gas leaving this step is mixed with incoming raw synthesis gas and recycled back through the process. Synthesis gas from the methanation process is compressed, mixed with recycled synthesis gas, and ten cooled. Any ammonia in the synthesis gas, which has condensed at this point in the process, is separated from the unconverted synthesis gas and sent to the separator. The unconverted synthesis gas is compressed, preheated, and then contacted with an iron oxide catalyst in the synthesis converter. Ammonia in the gas leaving the converter is condensed, and the ammonia is sent to a separator. Ammonia sent to the separator is flashed to remove impurities. The ammonia rich flashed vapor is then condensed in a chiller, where anhydrous ammonia is removed and stored as a liquid at low temperature.

EDCC uses the liquid ammonia produced in the ammonia plant in any combination of the following ways:

1. Ammonia is used as a feedstock for on-site nitric acid production;
2. Ammonia is also used as a feedstock for on-site ammonium nitrate fertilizer production; and
3. Liquid ammonia is sold as product and shipped by truck and/or railcar (SN-58), or pipeline.

Ammonia Plant - Ancillary Emission Sources

The following emission sources are operated in support of the ammonia plant production process:

- Frick Ammonia Compressors (SN-31)
  Fugitive emissions of ammonia occur from the handling of ammonia in the Frick Compressor Building.
- Ammonia Storage/Distribution (SN-32)
  Fugitive emissions of ammonia occur from the handling and distribution of ammonia.
- Ammonia Plant Ammonia Vent Flare (SN-53)
  Ammonia is vented from this source during emergencies or as a result of depressurization of the ammonia plant synthesis loop during shutdown or maintenance. The flare is operated to control ammonia during either of these events.
- Ammonia Plant Fugitives (SN-55)
  Fugitive leaks of process gas/liquid containing ammonia occur during normal operation from process equipment components (i.e., valves, flanges, pump seals, etc.).

- Ammonia Plant Process SSM Flare (SN-56)
  Process gas containing CO and methane is emitted during startup, shutdown, and malfunction (SSM) events. The flare is operated to control emissions during SSM events.
- Ammonia Storage Flare (SN-57)
  The flare is operated to control ammonia releases during planned maintenance and SSM events related to the ammonia storage tanks, ammonia refrigeration system, and the ammonia transfer system.
- Ammonia Plant Emergency Generator (SN-66)
  The ammonia plant will have a natural gas-fired backup generator in the event of an emergency electrical outage.

East and West Nitric Acid Plants

The East and West Nitric Acid Plants produce weak nitric acid at concentrations ranging from 52% to 58%. These nitric acid plants employ the DuPont single (high) pressure process designed and built in 1962 by C&I Girdler. Pursuant to the federal consent decree (Civil Action No. CIV-14-271-F), the East and West Nitric Acid Plants are subject to NSPS 40 CFR 60, Subparts A and G. Liquid ammonia is received through a pipeline, by truck, and/or produced at the Ammonia Plant and sent to intermediate storage. From intermediate storage, ammonia enters a surge tank, where the liquid ammonia level is controlled. The surge tank aids in maintaining a steady flow and controls the ammonia pressure. Purge valves remove oil, water, and inert gases from the ammonia before it exits the bottom of the surge tank through two lines. The ammonia is then delivered through a level control valve to a vaporizer, where the ammonia is vaporized.

The ammonia vapor is transferred to the mixer pipe, where it is mixed with preheated air through a series of nozzles. The mixture is maintained at approximately 10% (by volume) ammonia gas. The air and ammonia mixture enters into the top of a converter, where combustion occurs on platinum catalyst gauze. The temperature of the gas leaving the platinum catalyst is between 1,660°F and 1,750°F. At this point, the ammonia is being oxidized to nitrogen oxide(s) and water vapor.

The process gas is then cooled prior to the absorption process. The process gas passes through absorption columns at the East and West Nitric Acid Plants. Product acid (52% to 58% nitric acid) is retrieved from the bottom of each absorption column and pumped to two 250 ton capacity stainless steel tanks. The tanks share a common vent stack with a water seal at the bottom.

The unabsorbed tail gas, which consists of nitrogen oxides, exits the top of the absorption columns and is passed through Selective Catalytic Reduction (SCR) Units before being vented to the atmosphere through a stack (SN-08 for the West Nitric Acid Plant and SN-09 for the East Nitric Acid Plant). The SCR Units reduce nitrogen oxide emissions by reacting ammonia with nitrogen oxide to form nitrogen gas and water vapor. The stacks are equipped with a nitrogen oxide continuous emission monitoring systems (CEMS), which shall be operated in accordance with the ADEQ CEMS conditions. The CEMS will also be operated consistent the requirements of EDCCs Consent Decree.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc. Also, nitric acid mist emissions occur due to the loading of nitric acid into rail cars and trucks. Emissions from loading operations (SN-29) are controlled by the Nitric Acid Vent Collection System (SN-10).

DM Weatherly Nitric Acid Plant # 1 (DMW1 Plant)

The DMW1 Plant (SN-13) produces weak nitric acid at a concentration of 61% - 67% by the oxidation of ammonia in the presence of a catalyst in a similar process to the East and West Nitric Acid Plants. This nitric acid plant was originally installed at the American Cyanamid Company facility at Hannibal, Missouri and was relocated to El Dorado Chemical in 1990. Therefore, this plant is subject to NSPS 40 C.F.R. § 60 Subpart G since it was constructed after August 17, 1971 and produces weak nitric acid (between 30% and 70% strength).

Liquid ammonia is received through a pipeline, by truck, and/or produced at the Ammonia Plant and sent to intermediate storage. From intermediate storage, liquid ammonia is passed through a set of filters into the ammonia feed vaporizer. Any particulates in the vapor are removed in the ammonia filter. A magnetic filter removes iron residue from the ammonia vapor. The clean ammonia vapor is directed to an ammonia superheater and heated to approximately 330°F. The hot/clean ammonia is conveyed into a Koch ammonia/air mixer, where the process of converting and oxidizing ammonia to nitric acid is initiated. The oxidation of the ammonia is completed as gases pass through a converter elbow. From the converter, the process gas is passed through a series of heat recovery units and then to the absorption column.

The absorption column is divided into three zones. Zone I is the lower part of the column, where the majority of the absorption of nitrogen dioxide to produce the largest amount of nitric acid occurs. Zone II contains a low nitrogen oxide concentration and oxidizes nitric oxide to nitrogen dioxide. Zone III, the upper zone (accounts for approximately 100 feet of the 154 foot column height) of the column, absorbs in condensate low concentrations of nitrogen dioxide, which lowers the nitrogen oxide emissions and allows the plant to produce a consistent 61% - 67% strength nitric acid stream.

The reaction gas stream exiting the top of the absorption tower ("tail/expander gas") is directed through a mist separator and tail gas preheater. The tail gas is routed through a series of heaters/preheaters before being routed to the No. 1 and No.2 Economizers. The economizer's exit stream (consisting of nitrogen, excess oxygen, and unabsorbed nitrogen oxides) is routed to a steam heated tail gas heater to increase the exit gas temperature and then to a SCR unit for NO_x control before being released to the atmosphere through a 50 foot stack (SN-13). The stack is equipped with a nitrogen oxide continuous emission monitoring system (CEMS), as required by 40 C.F.R. § 60 Subpart G. The CEMS will also be operated consistent with EDCC’s consent decree.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc. Also, nitric acid mist emissions occur due to the loading of nitric acid into rail cars and trucks. Emissions from loading operations (SN-29) are controlled by the Nitric Acid Vent Collection System (SN-10).

DM Weatherly Nitric Acid Plant # 1 Cooling Tower

The cooling tower (SN-38) provides non-contact cooling water to the DMW1 process equipment. Particulate matter is emitted during operation of the cooling tower.

DM Weatherly Nitric Acid Plant # 2 (DMW2 Plant)

The DMW2 Plant (SN-59) produces weak nitric acid at a concentration of 61% - 67% by the oxidation of ammonia in the presence of a catalyst. This nitric acid plant is being newly constructed at El Dorado Chemical; therefore, this plant is subject to NSPS 40 C.F.R. § 60 Subpart Ga since it was constructed after October 14, 2011 and produces weak nitric acid (between 30% and 70% strength).

Liquid ammonia is received through a pipeline, by truck, and/or produced at the Ammonia Plant and sent to intermediate storage. From intermediate storage, liquid ammonia is passed through a set of filters into the ammonia feed vaporizer. Any particulates in the vapor are removed in the ammonia filter. A magnetic filter removes iron residue from the ammonia vapor. The clean ammonia vapor is directed to an ammonia superheater and heated to approximately 330°F. The hot/clean ammonia is conveyed into an ammonia/air mixer, where the process of converting and oxidizing ammonia to nitric acid is initiated. The oxidation of the ammonia is completed as gases pass through a converter elbow. From the converter, the process gas is passed through a series of heat recovery units and then to the absorption column.

The absorption column is divided into three zones. Zone I is the lower part of the column, where the majority of the absorption of nitrogen dioxide to produce the largest amount of nitric acid occurs. Zone II contains a low nitrogen oxide concentration and oxidizes nitric oxide to nitrogen dioxide. Zone III, the upper zone of the column, absorbs in condensate low concentrations of nitrogen dioxide, which lowers the nitrogen oxide emissions and allows the plant to produce a consistent 61% - 67% strength nitric acid stream.

The reaction gas stream exiting the top of the absorption tower ("tail/expander gas") is directed through a mist separator and tail gas preheater. The tail gas is routed through a series of heaters/preheaters before being routed to a selective SCR unit to control NO_x emissions (SN-59) and then to the economizer. Tertiary controls are also utilized to control N_2O emissions in compliance with PSD BACT requirements. The stack is equipped with a nitrogen oxide continuous emission monitoring system (CEMS), as required by 40 C.F.R. § 60 Subpart Ga.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc.

Also, nitric acid mist emissions occur due to the loading of nitric acid into rail cars and trucks. Emissions from loading operations (SN-29) are controlled by the Nitric Acid Vent Collection System (SN-10).

DM Weatherly Nitric Acid Plant # 2 and East and West Nitric Acid Plants Cooling Tower

The Cooling Tower (SN-60) provides non-contact cooling water to the process equipment in the DMW2 Plant, the East and West Nitric Acid Plants, the NACSAC® Plant, the Mixed Acid Plant, and the Ammonia shipping and storage refrigeration system. Particulate matter is emitted during operation of the cooling tower.

Nitric Acid Vent Collection System

In October of 1997, a packed tower hydrogen peroxide scrubber was installed to control NO_x emissions. The top portion of the packed tower treats nitrogen oxide emissions from the weak nitric acid storage vents (Tanks 49, 50, and 51, as well as three (3) new tanks being added with the plant expansion). The bottom section of the packed tower treats the nitrogen oxide emissions present in the blend acid tanks (Tanks 43, 44, 45, and 46) bleaching air stream. The nitric acid loading system vents (SN-29) are also collected and routed to the packed tower. The overheads from the packed tower are routed through a Venturi Scrubber for additional treatment before being vented to the atmosphere (SN-10). The strong nitric acid storage tanks (Tanks 47, 48, 66, 67, 68, 69, 70, and 71) are routed directly to the Venturi scrubber (i.e., bypass the packed tower). Finally, the nitric acid fumes resulting from the cleaning and pressure checking of rail cars (conducted in the Car Barn) are routed to SN-10.

NACSAC® Plant

EDCC operates a nitric acid concentration plant (NACSAC® Plant). In the NACSAC® Plant, weak nitric acid is concentrated by atmospheric extractive reactivation in the NAC® Unit using sulfuric acid as the extractive agent. The sulfuric acid is diluted in the NAC® Unit as it extracts water from the feed nitric acid. The diluted sulfuric acid is re-concentrated in the SAC® Unit. All NO_x containing gases generated in the whole NACSAC® Plant are recovered as weak nitric acid in the NO_x-ABS Unit. The recovered nitric acid from the NOx-ABS Unit is sent to the NAC® Unit to be concentrated. The combined concentration of the feed acid and the weak acid from the NO_x-ABS Unit yields strong nitric acid (> 98% strength).

NAC® Unit

Weak nitric acid is pumped through an Internal Pre-Heater to the Nitric Acid Evaporator. The pre-heated nitric acid is only partly evaporated in the Nitric Acid Evaporator. The remaining boiling nitric acid and nitric acid vapors from the evaporator are fed to the Reactification Column, as well as pre-cooled sulfuric acid. On top of the Reactification Column, concentrated nitric acid is evaporated together with NO_x gas, which is generated as a the nitric acid decomposes due to the temperature in the column. The concentrated nitric acid is then routed to the Condenser, and the temperature of the remaining gas is further reduced in the Cooler to minimize the content of nitric acid vapors in the gas. Gas exiting the Cooler is routed to a Gas Washer, which scrubs out liquid nitric acid and water acid prior to entering the compressors feeding the NO_x-ABS Unit. The liquid recovered in Gas Washer is then recycled back to the Nitric Acid Evaporator.

The condensed nitric acid flows through Bleaching Column 1, where the condensed nitric acid is re-heated to its boiling point. By this procedure, the vapors are pre-cooled for greatest efficiency in a Condenser, and the simultaneous re-heating of concentrated nitric acid for best bleaching results in Bleaching Column 2 is achieved. The boiling, concentrated nitric acid from Bleaching Column 1 is bleached with compressed air in Bleaching Column 2 to achieve a colorless product nitric acid. The temperature of the bleached nitric acid from Bleaching Column 2 is then reduced in the Product Cooler.

In the sump of the Reactification Column, the diluted sulfuric acid is pre-concentrated in the Sump Re-Boiler to generate the vapors required for reactification. The vapors evaporate the nitric acid inside the Reactification Column and strip out almost all of the nitric acid and nitrous acid from the sulfuric acid, which then flows to the SAC® Unit.

SAC® Unit

Pre-concentrated sulfuric acid from the Sump Re-Boiler of the NAC® Unit flows to the SAC® Unit. The SAC® Unit consists of a Vertical Evaporator and Heat Exchanger. The SAC® Unit re-concentrates the diluted sulfuric acid, which then flows to the Buffer Tank. From the Buffer Tank, the concentrated sulfuric acid is pumped through the Internal Pre-Heater of the NAC® Unit to the Reactification Column.

Vapors generated in the SAC® Unit are condensed in the Condenser, from which water flows to the Condensate Dip Tank. The condensate is used to de-superheat the vapors in front of the condenser. The condensate is also used to separate in a separate cooling loop to cool the Vacuum Pump, which maintains the vacuum of the SAC® Unit. A small amount of the cooled condensate is pumped to the NO_x-ABS Unit for use as process water.

NO_x-ABS Unit

All NO_x generated in the NACSAC® Plant is sent to the Liquid Ring Compressors of the NO_x-ABS Unit. The Liquid Ring Compressor compresses the gas together with atmospheric air, which then flows to the Absorption Tower. The Absorption Tower utilizes specially designed trays with cooled inserts to provide for efficient oxidation and absorption of NO_x to generate nitric acid together with atmospheric air and water. Process condensate from the SAC® Unit is used to minimize the amount of effluent water.

At the bottom of the Absorption Tower, weak nitric acid is produced, which is sent to the Liquid Ring Compressor and for temperature reduction to the Cooler. The liquid stream is then sent for concentration in the NAC® Unit. The effluent gas, containing NO_x, is released from the top of the Absorption Tower directly to the atmosphere (SN-47).

Sulfuric Acid Plant

The Sulfuric Acid Plant was originally constructed in 1949 as a single absorption contact process of the Chemico design. The Sulfuric Acid Plant has now been converted to a double adsorption process with a maximum daily production capacity of 600 tons of 100% acid equivalent per day. To support the double absorption process, a Sulfuric Acid Cooling Tower (SN-46) is operated to maintain consistent operating temperatures.

The raw material used to initiate the sulfuric acid manufacturing process is elemental (bright) molten sulfur. The elemental sulfur is delivered to EDCC by rail car or tank truck. The sulfur is unloaded into a heated pit and pumped to a 2,000 ton heated sulfur storage tank (included in the air permit as an insignificant activity). The sulfur storage tank is equipped with a control valve, which allows molten sulfur to back flow into the pump pit. In preparation for burning the sulfur to begin the acid production process, atmospheric air is passed through an electric drive blower and sent to a packed tower, where ambient moisture is removed from the air by a recirculating 93% sulfuric acid stream. The air enters the sulfur furnace, where sulfur from the sulfur storage tank is sprayed into the air and is burned forming sulfur dioxide. This process gas stream contains primarily sulfur dioxide, oxygen, and nitrogen.

A waste heat boiler located at the exit of the sulfur burner cools the gas exiting the sulfur burner. The process gas then begins the process to convert the sulfur dioxide to sulfur trioxide. This is accomplished in the converter, in which the process gas passes through four layers of vanadium pentoxide catalyst. The conversion process is highly exothermic and the conversion of sulfur dioxide to sulfur trioxide is very temperature sensitive. To maintain thermodynamic equilibrium and maximize conversion, the process gas is cooled in multiple gas-to-gas non-contact heat exchangers throughout the process to decrease temperature and shift the equilibrium to increase conversion rates.

After the process gas exits the waste heat boiler, it enters the converter, passes through the first pass catalyst then the hot gas heat exchanger and enters the second pass catalyst. From the second pass catalyst, the gas flows through the superheater to provide heat to the plant's steam system and into the third pass catalyst. The process gas then flows through the cold gas heat exchanger and into the #3 economizer.

The economizer (i.e., heat exchanger) cools the process gas leaving the converter. The cooling fluid is the incoming water used in the waste heat boiler. The sulfur trioxide made in the converter will not combine directly with water but must be combined indirectly through absorption. This operation is carried out in the Interpass (IP) Tower, where the sulfur trioxide is scrubbed out of the gas stream with 98% sulfuric acid. Under this condition, the sulfur trioxide readily unites with water in the sulfuric acid to form a 98-99% sulfuric acid solution. The bulk of the Sulfuric Acid Plant's production is produced in the IP tower.

The gas stream exiting the IP Tower contains nitrogen, oxygen, unreacted sulfur dioxide and entrained sulfuric acid mist. This gas stream passes through an additional catalyst bed to convert the small amount of remaining sulfur dioxide to sulfur trioxide, and it continues through the process to a second absorption step for additional acid production. As the weak process gas exits the IP tower, it passes through the cold gas heat exchanger and the hot gas heat exchanger to absorb heat before entering the fourth pass catalyst for additional sulfur dioxide to sulfur trioxide conversion. As the gas exits the final catalyst bed, it passes through the #4 economizer for cooling prior to entering the Final Absorption (FAT) Tower. As in the IP tower, sulfur trioxide is scrubbed out of the gas stream with 98% sulfuric acid to produce sulfuric acid solution to be sold as product. The gas stream exiting the FAT tower contains inert atmospheric nitrogen, excess oxygen, unreacted sulfur dioxide, and entrained sulfuric acid mist that is routed to the Brinks' Mist Eliminator, which captures sulfuric acid mist prior to the gases being exhausted to the atmosphere through a stack (SN-07). Liquid product from the IP tower and FAT towers flows through the 98 Pump Tank and into Sulfuric Acid Storage where it is held until it is used as a feedstock to the Mixed Acid Plant and/or as an extractive agent in NACSAC® Plant or is sold as product and shipped via rail cars or trucks. Loading losses (SN-30) (occurring as sulfuric acid vapors) are displaced to the atmosphere by the liquid being loaded into rail cars or trucks.

Sulfuric Acid Plant Cooling Tower

The Cooling Tower (SN-46) uses a combination of river water and cooling system condensation water to cool the heat generated by the sulfuric acid production process. Particulate matter is emitted during operation of the cooling tower.

E2 Ammonium Nitrate Plant

The E2 Ammonium Nitrate Plant has been in operation at EDCC since the 1950's. It was modified in the early 1980's to allow for the production of either high density ammonium nitrate (HDAN, fertilizer grade) or low density ammonium nitrate (LDAN, industrial grade). However, when the KT Ammonium Nitrate Plant was built in 1989, the production of LDAN at the E2 Plant was discontinued.

HDAN production requires the reaction of weak nitric acid with ammonia to produce an ammonium nitrate solution. The ammonium nitrate is concentrated to a strength greater than 99% for high density prills.

Weak nitric acid from one of the weak nitric acid plants (East and West Nitric Acid Plants, DMW1, and/or DMW2) and ammonia is reacted in one of three ammonium nitrate neutralizers (reactors) piped in parallel, or from a fourth standalone neutralizer. Overheads from the three neutralizers operated in parallel are routed to the E2 Plant Chemical Steam Scrubber (SN-41) for ammonia and particulate matter control. Overheads from the standalone neutralizer are routed to a second Chemical Steam Scrubber (SN-63), also for ammonia and particulate matter control. After the neutralization reaction, the ammonium nitrate solution (approximately 90% concentration) is fed to a sealed tank, where a pH analyzer adds enough ammonia to complete the reaction with the excess nitric acid. The ammonium nitrate solution then passes through two concentration steps (Low Concentrator and Auxiliary Concentrator) and then to Ammonium Nitrate Storage (SN-26) or directly to the E2 Plant Prill Towers. At each of the prill towers, the concentrated ammonium nitrate solution is broken into droplets by the prill plate; the droplets then fall countercurrent to cooling air forming prills. The air is pulled through the towers by the E2 Ammonium Nitrate Prill Tower Fans. The E2 Low Concentrator exhaust and the Auxiliary Concentrator exhaust are routed to the E2 Plant Chemical Steam Scrubber (SN-41), while the emissions from the Prill Tower shrouds and the Prill Tower fans (formerly SN-06) are routed to the E2 Plant Brinks Scrubber (SN-05). The prills are further cooled and screened when they exit the prill towers. The air from the post-prill tower cooling process is to SN-05 for control.

The cooled prills are loaded directly onto rail cars or trucks through a HDAN conveyor system (SN-28).

Ammonium Nitrate Solution Loading

Ammonium nitrate solution is shipped to customers via trucks and railcars. The content of the solution ranges from 83% to 90% ammonium nitrate. Ammonia emissions occur as a result of the loading operations (SN-40).

E2 Plant Barometric Tower

A wooden structure is operating similar to a cooling tower is used to create a "barometric leg" for the high concentrator (located at the top of the E2 Plant Prill Towers to concentrate ammonium nitrate from 95% strength to greater than 99% strength. The High Concentrator operates under a vacuum and non-condensables are pulled through the barometric leg to this dedicated Barometric Tower (SN-19). The Barometric Tower uses weak ammonium nitrate (~20%) process water as the circulation media. Particulate matter emissions occur as a result of particulate entrained in the water vapor mist that is emitted (sprayed) from the tower. Ammonia emissions also occur due the water containing ammonium nitrate in solution.

E2 Plant Solution Reactor

In the Solution Reactor (SN-34), a 35% nitric acid/magnesium oxide solution is created by reacting weak nitric acid with magnesium oxide through agitation. The solution leaves the reactor, where it is filtered to remove any excess magnesium oxide and other trace particulates, and is stored in a heated tank as 35% solution. The solution is pumped from the tank to the top of the E2 Prill Tower, where it is mixed with a 95% ammonium nitrate solution prior to the High Concentrator.

Magnesium Oxide Silo

The Magnesium Oxide Silo pneumatically receives magnesium oxide powder from trucks or railcars. The baghouse (SN-35A) is located on top of the silo structure and controls particulate matter generated during the pneumatic transfer of magnesium oxide from the silo into the process day tank. The silo vent (SN-35B) discharges air as the silo pressure stabilizes after pneumatic filling from trucks and railcars.

KT Ammonium Nitrate Plant

The Kaltenbach Thuring (KT) Ammonium Nitrate Plant manufactures low-density ammonium nitrate for industrial customers. This plant was originally installed at American Cyanamid Corporation in Hannibal, Missouri and was purchased and relocated to El Dorado Chemical Company in1989.

Weak nitric acid from one of the weak nitric acid plants (East and West Nitric Acid Plants, DMW1 and/or DMW2) and ammonia is reacted in one of three ammonium nitrate neutralizers (reactors) piped in parallel, or from a fourth standalone neutralizer. The highly exothermic reaction of these two chemicals forms ammonium nitrate and steam. The ammonium nitrate solution exits the neutralizers to a pump tank, and the steam condensate is used in the nitric acid plants as an absorption medium. The ammonium nitrate solution is concentrated in the dehydrator to 97% concentration by blowing heated air through the solution. The concentrated ammonium nitrate solution is then pumped to the prilling tower. The overheads dehydrator stream is directed to a Brink's Scrubber (SN-21) prior to being vented to the atmosphere.

The prilling tower allows droplets of concentrated ammonium nitrate solution to fall for 150 feet countercurrent to ambient air. The droplets crystallize forming solid prills. Air and entrained particulate matter exit the top of the tower, where the particulate matter is controlled by a Brink’s Scrubber (SN-14).

The solid prills are removed from the prilling tower and are sent to the predryer and dryer, where heated air is used to remove the remaining moisture. The exhaust air streams from the predryer and dryer are processed through a Ducon type wet scrubber equipped with a mist eliminator and a Brinks Scrubber (SN-21).

The prills are cooled and coated with a wax and talc coating to improve flowability. The cooler air is fed to the Brinks Scrubber (SN-21) for particulate matter removal. The talc is stored in an enclosed silo, which pneumatically feeds to the bulk talc hopper. The silo and hopper are equipped with a baghouse (SN-18) to control particulate matter emissions.

The finished product ammonium nitrate prill stream exits the coater through a discharge elevator into product loading bins. The product is transferred via conveyor to storage (SN-64) and/or into railcars or trucks (SN-27).

Mixed Acid Plant

The Mixed Acid Plant consists of mix tanks and storage tanks. The mix tanks and the storage tanks utilize a continuously operated scrubber that has 99.5% efficiency for controlling hexavalent sulfur. Periodically, the scrubber is used to bring product into specification, being replaced with fresh scrubber solution during scrubber operation.

EDCC manufactures mixed acid by mixing 15% - 30% oleum (concentrated sulfuric acid) and/or 98% sulfuric acid with 98% nitric acid. The 15% - 30% oleum is purchased from a vendor and delivered to EDCC by railcar or tanker truck, while the 98% sulfuric acid comes from EDCC's Sulfuric Acid Plant, and the 98% nitric acid will come from the NACSAC® Plant. The manufactured mixed acid is stored in the product storage tank or the mixing tank until it is loaded into a railcar or tanker truck. Air emissions from the tanks, the unloading of oleum, and the loading/unloading of the mixed acid into tank cars and/or trucks will be routed to the scrubber (SN-44) prior to being released to the atmosphere.

Startup Boiler

A natural gas fired Startup Boiler (SN-61) is used to supply steam throughout the multi-plant facility during startup operations and for process heating purposes when excess steam generated from the operating plants is not available. Emissions from the boiler occur due to the combustion of natural gas. EDCC's Start-up Boiler will be designed with a turndown rate of 10:1. The turndown rate represents the maximum firing rate of the burners compared to the lowest controllable firing rate at which the boiler can operate. This turndown rate is necessary to EDCC's operations due to the high variability in steam demand at the facility.

Gasoline Storage Tank

The Gasoline Storage Tank (SN-25) is used to fuel facility vehicles and equipment. Volatile organic compound emissions occur due to the fueling operations.

Haul Road Fugitives

Transport trucks and facility vehicles operate on unpaved roads at the facility. Particulate matter emissions occur due to the vehicle traffic (SN-62).

Prevention of Significant Deterioration

This permit incorporates changes to the previous PSD major project since the previous permit was issued. The changes did not require review of any additional pollutants. The project still requires review for SO_2, CO, NO_x, and VOC.

Ambient Impact Analysis

The changes to the project only affected the modeling for CO. The modeled impacts of the previous permit for other pollutants were not affected by the changes of this permit.

PSD modeling is performed in two stages: the significance analysis and the full impact analysis. The significance analysis considers the net emissions change associated with PSD affected emissions units to determine if the increased emissions will have a significant impact upon the surrounding area. If the results of the significance analysis are below the corresponding Modeling Significance Levels, the full impact analysis is not required. EDCC modeled the impacts from the changes requested in this permit and added them to previous modeling. A summary of the results of the significance analysis is in the table below. Based upon these results a full impact analysis for CO is not required.

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	Significance Level (µg/m3)
CO	1 – hour	1029	2,000
	8 – hour	335	500

Best Available Control Technology

The PSD regulations mandate that a case-by-case Best Available Control Technology (BACT) analysis be performed on all new or modified affected sources at which a net emissions increase will occur. This modification modifies two sources, SN-50 and 51, and adds two new emergency engines which were part of a PSD project permitted in the previous permit. A summary of the BACT for these sources is below.

Ammonia Plant Condensate Steam Stripper, SN-50

The ammonia plant condensate steam stripper, SN-50 was required to go through BACT for GHG, CO and VOC. For CO and VOC control, EDCC identified, catalytic oxidation, thermal oxidation, flares, scrubbers and process catalyst selection as possible controls for the source. The combustion control options, catalytic and thermal oxidation and flaring all would generate more pollutants than would be controlled due to the additional fuel needed to support combustion of the VOC and CO in the exhaust stream. Proper catalyst selection was left as the only feasible BACT option. Based upon process modeling estimates BACT for this source was set at 0.00155 lb VOC/ton ammonia produced on a 24-hr average basis and 0.003 lb CO per ton ammonia produced on a 3-hr average basis. No control was determined feasible for GHG emissions the facility proposed a BACT limit of 6.8 lb CO_2 per ton ammonia produced, 439.3 lb CO_2 per hour, 0.00063 lb methane per ton ammonia produced, and 0.041 lb methane per hour all on a 3-hour basis; and 1929 ton per year of CO_2e per rolling 12 months. Those limits were chosen as BACT for GHG.

Ammonia Plant CO_2 Regenerator, SN-51

The ammonia plant CO_2 Regenerator, SN-51was required to go through BACT for GHG, CO and VOC. EDCC identified, Catalytic Oxidation, Thermal Oxidation, Flares, Scrubbers and Process Catalyst Selection as possible controls for the source for VOC. Thermal oxidation and flares were eliminated due to generation of more pollutants than would be controlled due to the additional fuel needed to support combustion of the VOC and CO in the exhaust stream. Catalytic Oxidation was technically feasible. Catalytic oxidation would require more than $218,000 per ton of VOC controlled of natural gas costs alone not including capital costs and was therefore determined to be economically infeasible. This left the options of scrubbing and proper catalyst selection, which EDCC proposed as BACT. There are similar sources in the RBLC with lower limits for VOC emissions. However, these sources are untested and their emission unverified. Those sources emissions were based on the results of a process model. The emission limit EDCC proposed was based on a similar process model. It is unknown what the differences are or which is the more accurate number. EDCC was not required to achieve the lower number as BACT. BACT was determined to be installation of a scrubber at 86% control and 0.101 lb of VOC per ton of ammonia produced on a 3-hour average basis.

EDCC identified, Catalytic Oxidation, Thermal Oxidation, Flares, Scrubbers and Process Catalyst Selection as possible controls for the source for CO. Thermal catalytic oxidation and flares were eliminated due to generation of more pollutants than would be controlled due to the additional fuel needed to support combustion of the VOC and CO in the exhaust stream. This left the options of proper catalyst selection, which EDCC proposed as BACT. There exist similar sources in the RBLC with lower limits for VOC emissions. However, these sources are untested and their emission are unverified. Those sources emissions were based on the results of a process model. The emission limit EDCC proposed was based on a similar process model. It is unknown what the differences are or which is the more accurate number. EDCC was not required to achieve the lower number as BACT. BACT was determined to be 0.02 lb of CO per ton of ammonia produced on a 3-hour average basis.

No control was determined feasible for GHG emissions. The facility proposed BACT limits of 2,510 lb CO_2 per ton ammonia produced, 162,000 lb CO_2 per hour, 0.0246 lb methane per ton ammonia produced, and 1.59 lb methane per hour all on a 3 hour basis; and 709,700 ton per year of CO_2e per rolling 12 months. Those limits were chosen as BACT for GHG.

Ammonia Plant Emergency Generator, SN-66

The emergency generator was required to go through BACT for NO_x, VOC, CO and SO_2, and GHG. The BACT for this source is summarized in the table below.

Pollutant	BACT	Limit
NO_x	Good Combustion Practice	2.0 g/HP-hr
VOC	Good Combustion Practice	1.0 g/hp-hr
CO	Good Combustion Practice	4.0 g/hp-hr
SO_2	Natural Gas Combustion only	7.35 E-4 lb/ MMBtu heat input
CO_2e	Energy Efficient Design and Operation	138 tons per 12 month rolling average.

Emergency Water Pump, SN-65

The emergency generator was required to go through BACT for NO_x, VOC, CO and SO_2, and GHG. The BACT for this source is summarized in the table below.

Pollutant	BACT	Limit
NO_x	Good Combustion Practice	2.78 g/hp-hr
VOC	Good Combustion Practice	0.225 g/hp-hr
CO	Good Combustion Practice	2.6 g/hp-hr
SO_2	Ultra Low-Sulfur Fuel (sulfur ≤ 15 ppm) Combustion Only	1.21 E-5 lb/ hp-hr
CO_2e	Energy Efficient Design and Operation	90.2 tons per 12 month period

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective March 14, 2016
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective March 14, 2016
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective March 14, 2016
EDCC is classified as a PSD major stationary source pursuant to 40 CFR 52.21
40 C.F.R. § 60, Subpart Db - *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*
The DM Weatherly Nitric Acid Plant #1 (SN-13) is subject to New Source Performance Standards 40 C.F.R. § 60 Subpart G, 60.70 through 60.74 (*Standards of Performance for Nitric Acid Plants*)
The DM Weatherly Nitric Acid Plant # 2 (SN-59) is subject to New Source Performance Standards 40 C.F.R. § 60, Subpart Ga – *Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011*
The Sulfuric Acid Plant (SN-07) is subject to 40 C.F.R. § 60 Subpart H (Standards of Performance for Sulfuric Acid Plants).
40 C.F.R. § 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
40 C.F.R. § 63, Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*
40 C.F.R. § 64, Compliance Assurance Monitoring

Emission Summary

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_x CO_2e Lead	72.4 53.9 52.2 93.5 15.5 189.7 998.6 325,621 0.06	114.7 94.3 89.8 402.9 37.3 130.1 708.0 1,207,090 0.06
HAPs		Arsenic* Cadmium* Formaldehyde* Hexane* Mercury Methanol*	0.06 0.06 0.13 2.01 0.06 6.51	0.06 0.06 0.39 8.28 0.06 28.21
Air Contaminants **		NH_3** H_2SO_4** HNO_3**	1,780.5 2.97 4.1	613.6 12.63 11.95
SN-02	Emissions routed to SN-41			
SN-03	Emissions routed to SN-41			
SN-04	Emissions routed to SN-41			
SN-05A	Ammonium Nitrate E2 Brinks Scrubber - North	PM PM_{10} $PM_{2.5}$ NH_3**	1.6 1.6 1.6 0.8	6.7 6.7 6.7 3.1
SN-05B	Ammonium Nitrate E2 Brinks Scrubber - South	PM PM_{10} $PM_{2.5}$ NH_3**	1.6 1.6 1.6 0.8	6.7 6.7 6.7 3.1
SN-06	E2 Ammonium Nitrate Prill Tower Fans	Emissions routed to SN-05		

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-07	Sulfuric Acid Plant	SO_2 H_2SO_4**	92.0 2.9	401.5 12.4
SN-08	West (Weak) Nitric Acid Plant	NO_x NH_3**	52.2 40.0	228.6 62.2
SN-09	East (Weak) Nitric Acid Plant	NO_x NH_3**	52.2 40.0	228.6 62.2
SN-10	Nitric Acid Vent Collection System	NO_x HNO_3**	19.5 3.9	85.1 11.1
SN-13	DM Weatherly Nitric Acid Plant # 1 (controlled by SCR)	NO_x NH_3**	16.7 1.4	42.0 6.1
SN-14	KT LDAN Prill Tower with Brinks Scrubber	PM PM_{10} $PM_{2.5}$ NH_3**	1.5 1.5 1.5 0.7	6.5 6.5 6.5 3.1
SN-18	KT Plant Clay Baghouse	PM PM_{10} $PM_{2.5}$	1.5 1.5 1.5	1.9 1.9 1.9
SN-19	E2 Plant Barometric Tower	PM PM_{10} $PM_{2.5}$ NH_3**	0.5 0.5 0.5 4.1	1.9 1.9 1.9 17.7
SN-20	Emissions routed to SN-41			
SN-21	KT Plant Brinks Scrubber	PM PM_{10} $PM_{2.5}$ NH_3**	1.5 1.5 1.5 0.7	6.5 6.5 6.5 3.1
SN-25	Gasoline Storage Tank (2000 Gallon)	VOC	4.8	1.0
SN-26	Ammonium Nitrate (90% Solution) Storage	NH_3**	0.3	0.8
SN-27	KT Plant LDAN Loading	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-28	E2 Plant HDAN/LDAN Loading	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
SN-29	Nitric Acid Loading	Emissions are routed to SN-10		
SN-30	Sulfuric Acid Loading	$H_2SO_4^{**}$	0.03	0.05
SN-31	Frick Ammonia Compressors	NH_3^{**}	0.5	2.0
SN-32	Ammonia Storage/Distribution	NH_3^{**}	1.6	7.0
SN-33	Nitric Acid Production Fugitives	NO_x HNO_3^{**}	0.1 0.01	0.1 0.02
SN-34	E2 Plant Solution Reactor	PM PM_{10} $PM_{2.5}$	1.1 1.1 1.1	4.5 4.5 4.5
SN-35A	Magnesium Oxide Silo Baghouse	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
SN-35B	Magnesium Oxide Silo Vent	PM PM_{10} $PM_{2.5}$	19.7 6.9 6.9	4.6 1.6 1.6
SN-37	Car Barn Scrubber	Emissions now routed to SN-10		
SN-38	DM Weatherly Nitric Acid Plant # 1 Cooling Tower	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.4 0.4 0.4
SN-40	Ammonium Nitrate Solution Loading	NH_3^{**}	0.3	0.7
SN-41	E2 Plant Chemical Steam Scrubber (30-day rolling average)	PM PM_{10} $PM_{2.5}$ NH_3^{**}	3.4 3.4 3.4 10.0	14.6 14.6 14.6 43.8
SN-41	E2 Plant Chemical Steam Scrubber (daily 24-hr average)	PM PM_{10} $PM_{2.5}$ NH_3^{**}	13.8 13.8 13.8 10.0	-- -- -- --

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-44	Mixed Acid Plant Scrubber	NO_x SO_3** H_2SO_4** HNO_3**	0.4 0.04 0.04 0.19	1.7 0.18 0.18 0.83
SN-46	Sulfuric Acid Plant Cooling Tower	PM PM_{10} $PM_{2.5}$	0.1 0.1 0.1	0.1 0.1 0.1
SN-47	Nitric Acid Concentration (NACSAC®) Plant	NO_x	0.2	0.6
SN-49	Ammonia Plant Primary Reformer	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_x CO_2e Arsenic* Cadmium* Formaldehyde* Hexane* Mercury* Lead NH_3**	3.5 3.5 3.5 0.7 1.2 16.0 10.3 96,800 0.01 0.01 0.07 1.46 0.01 0.01 14.3	15.2 15.2 15.2 0.5 5.1 70.1 44.8 423,800 0.01 0.01 0.27 6.37 0.01 0.01 62.6
SN-50	Ammonia Plant Condensate Steam Stripper	VOC CO CO_2e NH_3** Methanol*	0.1 0.2 500 0.6 0.01	0.5 0.9 2,000 2.5 0.01
SN-51	Ammonia Plant CO_2 Regenerator	VOC CO CO_2e NH_3** Methanol*	6.6 1.3 162,100 2.7 6.5	28.6 5.7 709,700 11.6 28.2
SN-52	Ammonia Plant Cooling Tower	PM PM_{10} $PM_{2.5}$	0.5 0.5 0.5	2.1 2.1 2.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-53	Ammonia Plant Ammonia Vent Flare (0.26 MMBtu/hr total from 4 pilots)	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.1	0.4
		NO_x	792.1	6.9
		CO_2e	7,500	800
		NH_3**	1,584.1	9.8
		Arsenic*	0.01	0.01
		Cadmium*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.01
		Mercury*	0.01	0.01
		Lead	0.01	0.01
SN-54	Ammonia Plant Start-up Heater (38 MMBtu/hr natural gas-fired)	PM	0.3	0.1
		PM_{10}	0.3	0.1
		$PM_{2.5}$	0.3	0.1
		SO_2	0.1	0.1
		VOC	0.2	0.1
		CO	0.8	0.2
		NO_x	2.3	0.6
		CO_2e	4,500	1,200
		Arsenic*	0.01	0.01
		Cadmium*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.08	0.02
		Mercury*	0.01	0.01
		Lead	0.01	0.01
SN-55	Ammonia Plant Fugitives	NH_3**	15.5	67.6

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-56	Ammonia Plant Process SSM Flare	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	156.1	39.4
		NO_x	0.1	0.5
		CO_2e	18,800	5,200
		Arsenic*	0.01	0.01
		Cadmium*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.01
		Mercury*	0.01	0.01
		Lead	0.01	0.01
SN-57	Ammonia Storage Flare	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.1	0.1
		NO_x	10.1	43.9
		CO_2e	21.0	90.0
		NH_3**	40.0	175.2
		Arsenic*	0.01	0.01
		Cadmium*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.01
		Mercury*	0.01	0.01
		Lead	0.01	0.01
SN-58	Ammonia Rail and Truck Loading	NH_3**	9.2	13.1
SN-59	DM Weatherly Nitric Acid Plant # 2	NO_x	33.8	17.8
		CO_2e	6,200	26,900
		NH_3**	2.7	11.6
SN-60	DM Weatherly Nitric Acid Plant # 2 Cooling Tower	PM	0.5	2.1
		PM_{10}	0.5	2.1
		$PM_{2.5}$	0.5	2.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-61	Start-up Boiler (240 MMBtu/hr)	PM	2.4	3.2
		PM_{10}	2.4	3.2
		$PM_{2.5}$	2.0	2.6
		SO_2	0.2	0.3
		VOC	1.0	1.3
		CO	8.9	11.7
		NO_x	4.4	5.7
		Lead	0.01	0.01
		CO_2e	28,200	37,100
		Arsenic*	0.01	0.01
		Cadmium*	0.01	0.01
		Formaldehyde*	0.02	0.03
		Hexane*	0.44	0.56
		Mercury*	0.01	0.01
SN-62	Haul Road Fugitives	PM	6.7	20.8
		PM_{10}	1.5	4.4
		$PM_{2.5}$	0.2	0.5
SN-63	KT Plant Chemical Steam Scrubber (30-day rolling average)	PM	3.4	14.8
		PM_{10}	3.4	14.8
		$PM_{2.5}$	3.4	14.8
		NH_3**	10.2	44.7
SN-63	KT Plant Chemical Steam Scrubber (daily 24-hr average)	PM	14.0	--
		PM_{10}	14.0	--
		$PM_{2.5}$	14.0	--
		NH_3**	10.2	--
SN-64	KT LDAN Warehouse Fugitives	PM	0.2	0.8
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
SN-65	Emergency Water Pump	PM	0.1	0.1
		PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.2	0.1
		CO	1.9	0.5
		NO_x	2.0	0.5
		CO_2e	400	100

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-66	Ammonia Plant Emergency Generator	PM PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_x CO_2e	0.1 0.1 0.1 0.1 1.1 4.3 2.2 600	0.1 0.1 0.1 0.1 0.3 1.1 0.6 200
SN-67	E2/KT Products Blend	PM PM_{10} $PM_{2.5}$	0.5 0.1 0.1	0.4 0.1 0.1

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.
**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

SECTION III: PERMIT HISTORY

The chemical plant located at 4500 North West Avenue in El Dorado, Arkansas and currently owned and operated by El Dorado Chemical Company has equipment that dates back to 1944 to the initial facility built by the U.S. Army Corps of Engineers and operated for the U.S. Government by Lion Oil Company.

Permit 122-A

Permit 122-A was issued July 13, 1972 to Monsanto Company for additional absorption trays and refrigeration to reduce the opacity from the East and West regular nitric acid plants (SN-08 and SN-09). Existing plants at that time and their date of installations were: Boilers (1944), Sulfuric Acid Plant (1949), the E2 Ammonium Nitrate Plant (1950), and East and West Nitric Acid Plants (1962).

Permit 123-A

Permit 123-A was issued July 13, 1972 to Monsanto Company to tie the Nitric Acid Concentrators exhausts into an existing fume scrubber to reduce opacity.

Permit 124-A

Permit 124-A was issued July 13, 1972 to Monsanto Company to install mist eliminators on the Ammonia Nitrate neutralizers and concentrators to reduce particulate matter emissions.

Permit 168-A

Permit 168-A was issued June 22, 1973 to Monsanto Company to install a wet scrubber to reduce the particulate matter emission from the ammonium nitrate prilling towers.

Permit 0573-A

Permit 0573-A was issued to Monsanto Agricultural Products Company on August 8, 1979 for the installation of a mist eliminator for the emissions of the sulfuric acid plant to lower the emission factor from this equipment below 0.5 lb acid mist / ton of 100 percent acid produced, as required by Section 111(d) of the Clean Air Act.

Permit 0573-AR-1

Permit 0573-AR-1 was issued on September 23, 1983 when El Dorado Chemical, Inc. purchased the facility from Monsanto Company. All previous permits for this facility were rescinded. Permit Limits for SN-1 thru SN-10 were established in pounds per hour (not tpy) and the opacity limits for all sources except SN-8 and SN-9 (nitric acid plants) were established at 40%.

Permit 0573-AR-2

Permit 0573-AR-2 was issued on March 23, 1984 for the conversion of the E2 ammonium nitrate plant to allow some of its production to be low density product in addition to the high density product it was already producing.

Permit 0573-AR-3

Permit 0573-AR-3 was issued on September 11, 1989 for the expansion of the facility by adding the DM Weatherly nitric acid plant (subject to NSPS 40 C.F.R. § 60 Subpart G) and the KT ammonium nitrate plant and its associated prill tower. Emissions netting occurred with the issuance of this permit to avoid PSD review. The PSD trigger limits were established in this permit for particulate matter (203 tpy) and NO_x (8076 tpy).

Permit 0573-AR-4

Permit 0573-AR-4 was issued on June 6, 1991 reflecting the stack testing results required by the previous permit. Additionally, comprehensive inventories on production and air emissions record keeping were started on particulate matter and NO_x to insure that the annual emission limits due to PSD offsetting were not exceeded. The 1988/1989 (two years prior to 0573-AR-3) average actual emissions were recalculated and the PSD trigger limits were re-established at 281 tpy for particulate matter and 8202 tpy for NO_x.

Permit 0573-AR-5

Permit 0573-AR-5 was issued on November 7, 1991 to further incorporate stack testing results obtained since the previous permit was issued.

Permit 0573-AR-6

Permit 0573-AR-6 was issued on March 15, 1993 to install a scrubber on the KT Prill Plant and a secondary ammonium nitrate concentrator in the Low Density Ammonium Nitrate Plant. This lowered the ammonia and particulate matter emissions from the KT Ammonium Nitrate Plant.

Permit 0573-AR-7

Permit 0573-AR-7 was issued on September 6, 1994 for a facility expansion to install the UHDE Concentrated Nitric Acid Plant with an increase in NO_x emissions of 149.9 tpy. This Plant was incorrectly listed as being subject to NSPS 40 C.F.R. § 60 Subpart G when the permit was issued. The operation of the sulfuric acid concentrators (SN-01A and SN-01B) and the nitric acid concentrator (SN-10) with 288.1 tpy average actual NO_x emissions over the previous 5 years (314.5 tpy permitted NO_x emissions) were scheduled to cease six months after the plant start-up.

The UHDE Concentrated Nitric Acid Plant did not have a smooth startup when operation started in July, 1995. The permittee applied for a variance October 5, 1995 requesting continued operation of SN-01A, SN-01B, and SN-10 through July 1, 1996 while the concentrated nitric acid plant went through extended debugging.

A series of three Consent Administrative Orders were issued (CAO LIS No. 95-183, CAO LIS No. 95-183-001, CAO LIS No. 95-183-002) after the variance expired allowing the continued operation of SN-01A, SN-01B, and SN-10. These documents also required permitting of additional sources at the facility, installation of emission control equipment improvements by the permittee, and a thorough PSD review of all changes at the facility. The major emission control improvement was the installation of Selective Catalytic Reduction (SCR) units on SN-08 and SN-09. This resulted in a permitted reduction of 5,124 tpy NO_x for these two sources, and an actual emission reduction in excess of 2,700 tpy NO_x. A demister was also installed on the emissions from the North and South Sulfuric Acid Concentrator (SN-01A and SN-01B) which reduced sulfuric acid mist emissions by at least 50%.

Permit 0573-AOP-R0

Permit 0573-AOP-R0 was issued to El Dorado Chemical Company on October 21, 1999. This permit allowed a small capacity increase for the UHDE DSN Plant (SN-22) resulting in a 27.5 tpy increase in the NO_x emission limit for that source. The permittee was also granted an option of installing a CEM on the Sulfuric Acid Plant (SN-07) and after the completion of the CEM, a daily production increase to 360 tons. Emission limits for the permit were: PM/PM_{10} - 297.0 tpy, SO_2 - 2520.4 tpy, VOC - 2.7 tpy, CO - 25.4 tpy, NO_x. - 3002.5 tpy, HNO_3 - 242.3 tpy, H_2SO_4 - 66.6 tpy, and NH_3 - 404.1 tpy.

Permit 0573-AOP-R1

Permit 0573-AOP-R1 was issued to El Dorado Chemical Company on June 29, 2000. This permit modification was issued to resolve the appeal filed regarding the initial Title V permit. Primary changes are in the short term compliance mechanism in several of the Specific Conditions and the required testing Specific Conditions regarding opacity. One small source (SN-19) was deleted from the initial permit resulting in a 1.0 lb/hr reduction in the hourly particulate limits and no change in the yearly limit. Emission limits for the permit were: PM/PM_{10} - 297.0 tpy, SO_2 - 2520.4 tpy, VOC - 2.7 tpy, CO - 25.4 tpy, NO_x. - 3002.5 tpy, HNO_3 - 242.3 tpy, H_2SO_4 - 66.6 tpy, NH_3 - 404.1

Permit 0573-AOP-R2

Permit 0573-AOP-R2 was issued to El Dorado Chemical Company on December 3, 2001. This permit modification was issued to change the quantitative opacity observations for SN-27 and SN-28 from EPA Method 9 to EPA Method 22 (because both sources are non-point sources). The testing of the liquid in the peroxide scrubber in Specific Condition No. 24 was changed from a pH test to a hydrogen peroxide concentration test. ADEQ also modified the permit to clarify the reporting requirements and identify records that must be included in the semi-annual report specified in General Provision 7. The emission limits of the permit did not change in this modification.

Permit 0573-AOP-R3

Permit 0573-AOP-R3 was issued on February 20, 2003. This modification included the installation of a new ammonium nitrate transfer system to handle the finished ammonium nitrate product from the KT Ammonium Nitrate Plant, the installation of the new ammonium nitrate neutralizer in the E2 Ammonium Nitrate Plant, and the use of a “hard wired” PM_{10} emission factor in demonstrating compliance with the Plantwide Applicability Limit for sources SN-01 through SN-21. Emissions of PM/PM_{10} at SN-27 increased from 2.6 tpy to 2.7 tpy, as a result of the installation of a new ammonium nitrate transfer system (SN-27) at the KT Ammonium Nitrate Plant. Emissions of ammonia at SN-05 increased from 40.0 lb/hr to 45.7 lb/hr, as a result of the simultaneous operation of three ammonium neutralizers in the E2 Ammonium Nitrate Plant. The annual ammonia emissions remained the same. Additionally, there was no modification to the Prill Tower with this change. The increase in PM_{10} actual emissions was 14.8 ton/year at SN-05 and SN-06, which was less than the 15.0 ton/year threshold for PSD significance level. In the ammonia dispersion modeling submitted with this application, the facility did not include ammonia emissions from SN-11. SN-11 was prohibited from operation until stack testing was performed at this unit. The air dispersion modeling results showed the maximum ambient impacts did not exceed any 1/100 TLV concentrations at any modeled receptor. Plantwide PM_{10} emissions remained the same as listed in Permit #0573-AOP-R2.

Permit 0573-AOP-R4

Permit 0573-AOP-R4 was issued on June 30, 2003. This modification included the installation of a car barn scrubber (SN-37). Nitric acid emissions from cleaning and pressure checking rail cars were rerouted from the nitric acid concentrator vents (SN-10) to the scrubber (SN-37) at the car barn. There were no changes in plantwide nitric acid emissions.

Permit 0573-AOP-R5

Permit 0573-AOP-R5 was issued on April 12, 2005. This Title V air permit renewal included the installation of a new chemical steam scrubber (SN-41) at the E2 Plant, permitting four existing cooling towers (SN-38, SN-39, SN-42, and SN-43) and existing ammonium nitrate solution loading (SN-40), and revising the stack testing requirements for the Nitric Acid Vent Collection System (SN-10), Sulfuric Acid Plant (SN-07), E2 HDAN Plant Cooling Train (SN-17), KT Plant Dryer/Cooler (SN-15), and the KT Plant Brinks Scrubber (SN-21). Emission rates were re-evaluated to reflect updated emission factors and additional stack test data. Maximum potential operation hours at SN-08 and SN-09 were increased from 8400 hours per year to 8760 hours per year. Emission rates for the two boilers (SN-16A and SN-16B) were updated using USEPA AP-42 emission factors. Two sources (SN-11 and SN-12) were removed. The E2 Plant Barometric Tower (SN-19), at one time deleted from permit, was incorporated back into the permit.

Permit 0573-AOP-R6

Permit 0573-AOP-R6 was issued on April 13, 2006. This modification included the installation of a new Mixed Acid Plant Scrubber (SN-44), revision of the language of stack testing for SN-05, removal of stack testing requirements for SN-06, clarification of permit requirements and revision of control equipment monitoring parameters in the permit issued on April 12, 2005 and the agreed upon changes in the Permit Appeal Resolution (PAR). This modification also incorporated hard-wired emission factors for the E2 and KT plants, and a PSD application to increase the ammonium nitrate production limit of the E2 Plant to the maximum equipment potential. Plantwide condition #7 was revised to have the following language: "… does not include the quantity of condensable particulate measured through the back-half sampling train procedure of EPA Reference Method 5…". This was because the back-half sampling train procedure of Reference Method was not available when this condition was first put in the permit for PSD netting offset purposes.

Permit 0573-AOP-R7

Permit 0573-AOP-R7 was issued on February 16, 2007. This modification included the routing of the exhaust from Pease Anthony (Venturi) Scrubber on the E2 HDAN Plant Cooling Train (SN-17) to the Ammonium Nitrate E2 Brinks Scrubber (SN-05) for additional control, the removal of the particulate matter stack testing requirements for SN-17, and the revision of the PM_{10} hard-wired emission factor for the E2 Plant.

Permit 0573-AOP-R8

Permit 0573-AOP-R8 was issued on August 26, 2008. This permitting action included the following revisions:

Production capacity increase at SN-07 to 550 ton/day (200,750 ton/year);
Addition of a SSMP for SN-07, SN-08, SN-09, SN-13, SN-22, and SN-41;
Addition of ammonia emissions at SN-08 and SN-09;
Installation of an additional auxiliary air compressor at the East and West Nitric Acid Plant process area and at the DM Weatherly Nitric Acid Plant; and
Removed the Car Barn Scrubber (SN-37) and route the nitric acid emissions to Nitric Acid Vent Collection System (SN-10).

The permitted emissions decreases included 2,115.5 tpy of SO_2, 20.45 tpy of Sulfuric Acid Mist. The permitted emissions increases included 124.4 tpy of Ammonia and 0.7 tpy of Nitric Acid. There were no permitted NO_X emission changes with the installation of the auxiliary air compressors.

Permit 0573-AOP-R9

Permit 0573-AOP-R9 was issued on February 17, 2009. This minor modification authorized the installation of the sulfuric acid cooling tower (SN-46). This mechanically induced, cross-flow draft cooling tower is an integral part of the double absorption process required by CAO LIS 03-

175 (December 31, 2003). The potential emissions increase from this modification was 0.7 tpy of PM/PM_{10}.

Permit 0573-AOP-R10

Permit 0573-AOP-R10 was issued on October 26, 2009. With this modification the facility requested:

1. Revisions to particulate matter (PM/PM_{10}) monitoring requirements (Specific Condition # 61) for the E2 Plant Chemical Steam Scrubber (SN-41) based on the Environmental Protection Agency's (EPA's) position on condensable PM in the recently released New Source Review (NSR) implementation rule for $PM_{2.5}$.
2. Relocation of the Ammonium Nitrate (AN) Solution Loading facility (SN-40).
3. Removal of the obsolete Sampling Method for SN-41 (Appendix D) from the permit.
4. Revisions to the PM/PM_{10} stack testing requirements (Specific Condition # 67 and added Specific Condition # 68) for the KT LDAN Dryer/Cooler (SN-15) based on EPA's current position on condensable PM.
5. Corrections to compliance demonstration references for various specific conditions related to the E2 Ammonium Nitrate Plant, KT Ammonium Nitrate Plant, Natural Gas Fired Boilers, and the Magnesium Oxide Silo Baghouse.

The modification authorized all of the above requests except for #1. Revisions to a BACT limit requires PSD review, as such the BACT limit remained until the facility submits a PSD application. There were no permitted emission changes with the modification.

The facility submitted an Administrative Amendment on August 28, 2009 to implement Ammonia offloading operations to the Insignificant Activities list. The Ammonia offloading operations were added during the comment period for permit 0573-AOP-R10.

Permit 0573-AOP-R11

Permit 0573-AOP-R11 was issued on November 24, 2010. With this Title V Renewal the facility requested:

1. Update emission limits for SN-25, SN-28, SN-30, SN-33, SN-40, and SN-44. Revisions to SN-28 and SN-33 are due to rounding. Revisions to SN-25 are due to updates to the TANKS software. Revisions to SN-30 are due to revisions based on actual production capabilities. Revisions to SN-40 are due to previous calculation errors. Revisions to SN-44 are due to a reduction in oleum concentration.
2. Remove Specific Conditions # 44 and # 46 which required EDCC to install, test, and operate SO_2 removal technology in accordance with Consent Administrative Order, LIS 03-175. The unit has been installed.
3. Limit the Oleum concentration to a maximum of 30%. The lower limit is due to Occupational Safety and Health Administration (OSHA) issues and transportation regulations.

4. Correct various compliance mechanisms to add consistency and clarification.
5. EDCC also submitted a Prevention of Significant Deterioration (PSD) application to revise the Best Available Control Technology (BACT) limit at SN-41. The facility retained the BACT limit for the scrubber at 0.054 lb particulate per ton of Ammonium Nitrate (AN) solution for normal operations based on a 30-day rolling average. The facility incorporated a startup and shutdown BACT limit for the scrubber which was set at 0.223 lb particulate per ton of AN solution. The facility did not request to increase annual emissions from SN-41.

With the renewal, the total permitted emission changes included increases of 0.1 tpy of PM/PM_{10}, 0.4 tpy of VOC, and 0.1 tpy of NO_x, and a decrease of 6.4 tpy of SO_2.

Permit 0573-AOP-R12

Permit 0573-AOP-R12 was issued on October 11, 2011. With this modification the facility requested to:

1. Incorporate the requirements of 40 C.F.R. § 63, Subpart CCCCCC – *National Emission Standards For Hazardous Air Pollutants For Source Category: Gasoline Dispensing Facilities*; and
2. To incorporate Reference Method 202 into particulate matter sampling requirements at the KT Plant Dryer/Cooler (SN-15) as required by Specific Condition 90 of Permit 0573-AOP-R11.

There were no permitted emission changes with this modification.

Permit 0573-AOP-R13

Permit 0573-AOP-R13 was issued on June 18, 2012. With this modification the facility requested to incorporate ADEQ's Continuous Emissions Monitoring Systems (CEMS) Conditions for the stack gas sampling system at the E2 Plant Chemical Steam Scrubber (SN-41). There were no permitted emission changes with this modification.

Permit 0573-AOP-R14

Permit 0573-AOP-R14 was issued on October 29, 2012. On May 14, 2012, a reactor at the Direct Strong Nitric Acid Plant exploded, causing significant damage to process equipment at the Sulfuric Acid Plant (SN-07). With this modification the facility requested to repair and replace damaged process equipment associated with the Sulfuric Acid Plant (SN-07), the Sulfuric Acid Loading (SN-30), the Sulfuric Acid Cooling Tower (SN-46), and the Molten Sulfur Storage Tank (Insignificant Activity). The hourly SO_2 emission limit for the Sulfuric Acid Plant (SN-07) was reduced from 600 lb/hr to 92.0 lb/hr to be consistent with the applicable provisions of 40 C.F.R. § 60, Subpart H – *Standards of Performance for Sulfuric Acid Plants*. A 2,000 gallon diesel storage tank was also added to the insignificant activities. There were no permitted annual emission changes with this modification.

Permit 0573-AOP-R15

Permit 0573-AOP-R15 was issued on March 1, 2013. On May 14, 2012, a reactor at the Direct Strong Nitric Acid Plant exploded, causing significant damage to process equipment at the Sulfuric Acid Plant (SN-07). With this modification the facility requested:

1. Install a Selective Catalytic Reduction (SCR) Unit and install a natural gas fired heater (Tail Gas Heater, SN-48) at the DM Weatherly Nitric Acid Plant (SN-13);
2. Take a limit on the potential to emit from the existing boilers (SN-16A & SN-16B) to avoid triggering PSD for CO_2e; and
3. Install a nitric acid concentration plant (NACSAC® Plant, SN-47) to replace the facility's strong nitric acid production capability that was lost due to the shutdown of the Direct Strong Nitric Acid Plant.

Items 2 and 3 were withdrawn and were not be processed because the facility had plans for the nitric acid concentration plant in the future that include taking weak acid from any of the existing or new acid plants. The facility indicated that they intend on submitting a PSD application to install a new weak nitric acid plant and an ammonia plant in the near future. Therefore, installation of the NACSAC plant is related to the future PSD project. A significant emissions increase did not occur due to installing a SCR and a Tail Gas Heater at the DM Weatherly Nitric Acid Plant. The hybrid test for projects that involve multiple types of emissions units indicated that there would be the following increases:

The permitted emission increases included 0.7 tpy of $PM/PM_{10}/PM_{2.5}$, 0.1 tpy of SO_2, 0.5 tpy of VOC, 7.3 tpy of CO, 4.3 tpy of NO_x, and 6.2 tpy of NH_3. With this permitting action, the potential Green House Gas (GHG) emissions from SN-13 and SN-48 are being added to the permit. The potential GHG emissions from SN-13 and SN-48 include 292,384.3 tpy of CO_2e and 910.0 tpy of N_2O.

Permit 0573-AOP-R16

Permit 0573-AOP-R16 was issued on November 18, 2013. EDCC submitted a prevention of significant deterioration (PSD) modification application to expand the facility. The PSD application included the following process equipment modifications:

1. Installation of a new DM Weatherly Nitric Acid Plant # 2 (SN-59);
2. Installation of a new cooling tower (SN-60) to support DM Weatherly Nitric Acid Plant #2, East Nitric Acid Plant, West Nitric Acid Plant , the NACSAC plant, and the Mixed Acid Plant; the existing cooling tower for the East and West Nitric Acid Plants (SN-42) will be removed from service;
3. Installation of three (3) new weak nitric acid storage tanks, which will be added to Nitric Acid Vent Collection System (SN-10);
4. Installation of a used Ammonia Plant and ancillary equipment (SN-49 through SN-51, and SN-54);

5. Installation of a new Ammonia Plant Cooling Tower (SN-52);
6. Installation of a new Ammonia Plant Ammonia Vent Flare (SN-53);
7. Installation of a new Ammonia Plant Process SSM Flare (SN-56) and a new Ammonia Storage Flare (SN-57);
8. Installation of a new ammonia storage tank, which will be added to the Ammonia Storage/Distribution (SN-32);
9. Installation of a new Ammonia Rail and Truck Loading (SN-58);
10. Installation of a new Start-up Boiler (SN-61);
11. Installation of a new ammonium nitrate neutralizer and chemical steam scrubber (SN-63);
12. Installation of a new E2 Ammonium Nitrate Brinks Scrubber (SN-05), which will control the existing emissions routed to SN-05 plus those from the E2 Ammonium Nitrate Prill Tower Fan (SN-06); the Pease Anthony Scrubber that had been in line with the existing SN-05 Brinks scrubber will be removed;
13. Installation of a new KT Ammonium Nitrate Brinks Scrubber (SN-14);
14. Installation of two (2) ammonium nitrate storage tanks, two (2) ammonium nitrate mix tanks, and a pH adjustment tank;
15. Installation of a new ammonium nitrate (solid prills) warehouse and associated handling equipment;
16. Installation of a new Nitric Acid Concentration (NACSAC) Plant (SN-47);
17. Removal of SN-06, as the emissions will now be routed to SN-05;
18. Removal of the two (2) existing boilers (SN-16A and SN-16B);
19. Removal of the UHDE Direct (Strong) Nitric Acid Plant (SN-22);
20. Removal of the DSN Plant Cooling Tower (SN-39); and
21. Removal of the KT Plant Cooling Tower (SN-43).

The total permitted emission increases included 1.4 tpy of SO_2, 179.4 tpy of VOC, 102.1 tpy of CO, 88.4 tpy of $PM_{2.5}$, 0.07 tpy of Lead, 2,481,140 tpy of CO_2e, 4,143.7 tpy of N_2O, 0.07 tpy of Arsenic, 0.07 tpy of Cadmium, 0.40 tpy of Formaldehyde, 7.24 tpy of Hexane, 0.07 tpy of Mercury, 143.19 tpy of Methanol, and 446.27 tpy of Ammonia. The total permitted emission decreases included 213.9 tpy of PM, 239.7 tpy of PM_{10}, 1,689.9 tpy of NO_x, and 55.79 tpy of Nitric Acid.

SECTION IV: SPECIFIC CONDITIONS

East and West Regular Nitric Acid Plants

SN-08 and SN-09
East and West Nitric Acid Plant

Source Description

The East and West Nitric Acid Plants produce weak nitric acid at concentrations ranging from 52% to 58%. The West Nitric Acid Plant (SN-08) and East Nitric Acid Plant (SN-09) each utilize a C&I Girdler single pressure process to produce weak nitric acid. The air emissions from these processes are the tail gases from the absorption columns. The absorption columns employ bleaching air to oxidize nitrogen oxide to nitrogen dioxide. The amount of bleaching air used in the process controls the oxygen in the tail gases. The tail gases, which consist of nitrogen oxides, are passed through Selective Catalytic Reduction (SCR) Units before being vented to the atmosphere. The SCR units remove nitrogen oxide emissions by reacting ammonia with nitrogen oxide to form nitrogen gas and water vapor.

The uncontrolled emissions from SN-08 and SN-09 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned sources are regulated under the CAM Rule because it meets the following criteria: (1) the units are subject to emission limitations for NO_x, (2) the sources are equipped with a control device, and (3) the units have potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for these sources. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limits at these sources.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 17.4 tons per hour of 100% nitric acid production. Compliance with this condition shall be demonstrated by compliance with Specific Conditions 4 through 16 and satisfactory operation of the SCR Units. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
08	West Nitric Acid Plant	NO_x	52.2	228.6
09	East Nitric Acid Plant	NO_x	52.2	228.6

2. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 17.4 tons per hour of 100%

nitric acid production. Compliance with the lb/hr limit for ammonia for SN-08 and SN-09 will be demonstrated by comparison of the limit to the result of the test conducted pursuant to Specific Condition 11. Compliance with the ton per year limit will be demonstrated by complying with the lb/hr limit. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
08	West Nitric Acid Plant	NH_3	40.0	62.2
09	East Nitric Acid Plant	NH_3	40.0	62.2

3. The permittee shall not exceed 10% opacity from the West Nitric Acid Plant and the East Nitric Acid Plant as measured by EPA Reference Method 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

4. The permittee shall not manufacture in excess of 152,387.5 tons 100% acid equivalent per rolling 12-month total of weak nitric acid through each of the nitric acid plants (SN-08 and SN-09). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

5. The permittee shall keep records of the production manufactured in the east and west nitric acid plants as specified in Specific Condition 4. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

6. The West Nitric Acid Plant (SN-08) must continuously have NO_x emissions that do not exceed 3.0 lb/ton of weak nitric acid production *(100 % nitric acid basis)* on a 3-hour rolling average excluding startup, shutdown, and malfunction. The permit shall demonstrate compliance with this condition by complying with Specific Condition 10. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

7. The West Nitric Acid Plant (SN-08) must continuously have NO_x emissions that do not exceed the emission rates in the following table after the dates specified in the table. Compliance with the NO_x emissions limits shall be calculated in accordance with the applicable CEMS Plan attached to the Consent Decree and attached to this permit. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, 40 C.F.R. § 70.6 and Consent Decree CIV – 14-271-F]

NO_x Emissions Limit	Averaging Time	Compliance Date
1.0 lb/ton of 100% nitric acid produced	3-hour rolling excluding startup, shutdown, and malfunction	January 1, 2016
0.6 lb/ton of 100% nitric acid produced	365-day rolling average at all times	January 1, 2017

8. The East Nitric Acid Plant (SN-09) must continuously have NO_x emissions that do not exceed 3.0 lb/ton of weak nitric acid production (100% nitric acid basis) on a 3-hour rolling average excluding startup, shutdown, and malfunction. The permit shall demonstrate compliance with this condition by complying with Specific Condition 10. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, 40 C.F.R. § 70.6 and Consent Decree CIV – 14-271-F]

9. The East Nitric Acid Plant (SN-09) must continuously have NO_x emissions that do not exceed the emission rates in the following table after the dates specified in the table. Compliance with the NO_x emissions limits shall be calculated in accordance with the applicable CEMS Plan attached to the Consent Decree and attached to this permit. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, 40 C.F.R. § 70.6 and Consent Decree CIV – 14-271-F]

NO_x Emissions Limit	Averaging Time	Compliance Date
1.0 lb/ton of 100% nitric acid produced	3-hour rolling excluding startup, shutdown, and malfunction	January 1, 2016
0.6 lb/ton of 100% nitric acid produced	365-day rolling average at all times	January 1, 2017

10. The permittee shall install, calibrate, maintain, and operate a Continuous Emission Monitoring System (CEMS) to monitor NO_x emissions from the West Nitric Acid Plant (SN-08) and the East Nitric Acid Plant (SN-09) to show compliance with Specific Conditions 6 and 8. The NO_x monitor shall be operated in accordance with the ADEQ CEMS conditions and the CEMS Plan attached to the Consent Decree and shall be operated at all times including during startup and shutdown. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

11. The permittee shall test SN-08 and SN-09 for ammonia emissions. This test shall be conducted within 180 days after the issuance of Air Permit 0573-AOP-R8 and every 60 months thereafter. Test method CTM-027 or an equivalent method approved by the

Department shall be used for Ammonia. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. This unit shall be operated at 90% or more of rated capacity when the tests are completed. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. The 60-month testing cycle shall commence after the issuance of Air Permit 0573-AOP-R8 in accordance with Plantwide Condition 3. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

12. The permittee shall not cause to be discharged into the atmosphere from on SN-08 and SN-09 any gases which contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid or exhibit 10% opacity or greater. This limit does not apply during periods of startup, shutdown, or malfunction. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E; and Reg.19.304 and 40 C.F.R. § Subpart G]

13. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system on SN-08 and SN-09 for measuring nitrogen oxides (NO_X). The permittee shall operate these CEMs in accordance with the Department CEMs Conditions and 40 C.F.R. §60.73(a) as amended by the CEMS plan of the permittee's Consent Decree. Method 7 shall be used for the performance evaluations under 40 C. F. R. § 60.13(c). Acceptable alternative methods to Method 7 are given in 40 C. F. R. § 60.74(c). [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311; and Reg.19.304 and 40 C.F.R. § Subpart G]

14. The permittee shall establish a conversion factor for the purpose of converting monitoring data of SN-08 and SN-09 as required in 40 C.F.R. §60.73(b) and superseded by the permittee's Consent Decree CEMS plan. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

15. The permittee shall record the daily production rate and hours of operation of SN-08 and SN-09. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.304 and 40 C.F.R. § Subpart G]

16. The permittee shall submit reports excess emission required under § 60.7(c) and superseded by the permittee's Consent Decree. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.304 and 40 C.F.R. § Subpart G]

DM Weatherly Nitric Acid Plant # 1

SN-13
DMW Nitric Acid Plant # 1

Source Description

The DMW Nitric Acid Plant # 1 (SN-13) produces weak nitric acid (61%-67% strength) by oxidizing ammonia in the presence of a platinum catalyst. The major contributor to air emissions from this process is the absorption column tail gas. In the absorption column, nitrogen dioxide is absorbed into condensate with nitric acid exiting the absorption column. The efficiency of this process determines the amount of nitrogen oxides released to the atmosphere in the tail gas. A SCR will be used to control the NO_x emissions from SN-13. This nitric acid plant was originally installed at the American Cyanamid Company facility at Hannibal, Missouri and was relocated to the El Dorado Chemical in 1990. This plant is subject to NSPS 40 C.F.R. § 60 Subpart G (New Source Performance Standard for Nitric Acid Plants), because it was constructed or modified after August 17, 1971 and produces weak nitric acid (between 30% and 70 % strength).

The uncontrolled emissions from SN-13 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for NO_x, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limit at this source.

Specific Conditions

17. The permittee shall not exceed the emission limits set forth in the following table for source SN-13. The hourly emission limits are based on maximum capacity of 16.7 tons per hour of 100% nitric acid production. Compliance with this condition will be verified by compliance with Specific Conditions 20, 22, 23, and 24. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
13	DM Weatherly Nitric Acid Plant # 1 (controlled by SCR)	NO_x	16.7	42.0

18. The permittee shall not exceed the emission limits set forth in the following table for source SN-13. The emission rates are based on maximum capacity and vendor specification. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
13	DM Weatherly Nitric Acid Plant # 1 (controlled by SCR)	NH_3	1.4	6.1

19. The permittee shall not exceed 10% opacity from the DM Weatherly Nitric Acid Plant # 1 (SN-13) as measured by EPA Reference Method 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

20. The permittee shall not manufacture in excess of 140,000 tons 100% acid equivalent per rolling 12-month average of weak nitric acid through the DM Weatherly Nitric Acid Plant # 1 (SN-13). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

21. The permittee shall keep records of the production manufactured at the DM Weatherly Nitric Acid Plant # 1 (SN-13) as specified in Specific Condition 20. These records shall contain each month's total and a rolling total for the previous twelve months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

22. The DM Weatherly Nitric Acid Plant # 1 (SN-13) must continuously have NO_x emissions that do not exceed the emission rates in the following table after the dates specified in the table. Compliance with the NO_x emissions limits shall be calculated in accordance with the applicable CEMS Plan attached to the Consent Decree and attached to this permit. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, 40 C.F.R. § 70.6, and Consent Decree CIV – 14-271-F]

NO_x Emissions Limit	Averaging Time
1.0 lb/ton of 100% nitric acid production	3-hour rolling excluding startup, shutdown, and malfunction
0.6 lb/ton of 100% nitric acid production	365-day rolling average at all times

23. The permittee shall install, calibrate, maintain, and operate a dual range CEMS and stack gas flow meter to monitor NO_x emissions from the DM Weatherly Nitric Acid Plant # 1 (SN-13) in accordance with the CEMS Plan (listed as Appendix J in the back of this permit). The permittee shall install, calibrate, maintain, and operate the dual range

monitor and stack gas flow meter with the following operational requirements, which are included in the CEMS Plan:

Analyzer	Parameter	Location	Span Value
NO_x Stack Analyzers	NO_x, ppm by volume, dry basis[1]	Stack	Normal: 0 – 500 ppm NO_x, or as appropriate to accurately measure the normal concentration range. SSM: 0 to 125% of the maximum estimated NO_x emission concentration
Stack Flow meter	Volumetric Flow rate, SCFH[2]	Stack	0 to 125% of the maximum expected volumetric flow rate

[1]For the purposes of calculations under the CEMS Plan in Appendix J, as-is NO_x concentration measurements at the DM Weatherly Nitric Acid Plant # 1(e.g., those utilizing FTIR, NDIR, or other types of stack gas analyzers capable of making wet measurements) will be assumed to be dry. However, the permittee may adjust for any moisture contained in the stack gas if the nitric acid plant is equipped with a continuous moisture analyzer or equipment which removes the moisture prior to the stack gas analyzer.
[2]For the purposes of the calculations under the CEMS Plan, as-is volumetric flow rate measurements will be assumed to be dry. However, the permittee may adjust for any moisture contained in the stack gas if the nitric acid plant is equipped with a continuous moisture analyzer.

[Reg.19.703, 40 C.F.R. § 52 Subpart E, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and Consent Decree CIV – 14-271-F]

24. The permittee shall use the dual range CEMS specified in Specific Condition 23 to monitor NO_x emissions from the DM Weatherly Nitric Acid Plant # 1 (SN-13). Compliance will be demonstrated on a rolling 3-hour average. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

25. The permittee shall have a third party annually stack test the Ammonia emissions from SN-13 within 180 days of startup of the DM Weatherly Nitric Acid Plant # 1 (SN-13) after installation of the control equipment, and every 12 months thereafter. The stack test shall be performed using method CTM-027 or an equivalent method approved by the Department shall be used for ammonia. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if

testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

26. The permittee shall not cause to be discharged into the atmosphere from on SN-13 any gases which contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid or exhibit 10% opacity or greater. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E; and Reg.19.304 and 40 C.F.R. § Subpart G]

27. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system on SN-13 for measuring nitrogen oxides (NO_x). The permittee shall operate these CEMs in accordance with the Department CEMs Conditions and 40 C.F.R. §60.73(a) as amended by the CEMS plan of the permittee's Consent Decree. Method 7 shall be used for the performance evaluations under 40 C. F. R. § 60.13(c). Acceptable alternative methods to Method 7 are given in 40 C. F. R. § 60.74(c). [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311; and Reg.19.304 and 40 C.F.R. § Subpart G]

28. The permittee shall establish a conversion factor for the purpose of converting monitoring data of SN-13 as required in 40 C.F.R. §60.73(b) and superseded by the permittee's Consent Decree CEMS plan. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

29. The permittee shall record the daily production rate and hours of operation of SN-13. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.304 and 40 C.F.R. § Subpart G]

30. The permittee shall submit reports excess emission required under § 60.7(c) and superseded by the permittee's Consent Decree. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.304 and 40 C.F.R. § Subpart G]

SN-38
DMW Nitric Acid Plant # 1 Cooling Tower

Source Description

EDCC operates a cooling tower as part of the DMW1 Nitric Acid Plant operations. During operation, water droplets become entrained in the air stream and are carried out of the cooling tower, called “drift”. Because the drift droplets generally contain the same chemical impurities as the water circulating through the tower, these impurities can be converted to airborne particulate emissions.

Specific Conditions

31. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity. Compliance with this Specific Condition will be verified by compliance with Specific Condition 34. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
38	DM Weatherly Nitric Acid Plant # 1 Cooling Tower	PM_{10}	0.1	0.4
		$PM_{2.5}$	0.1	0.4

32. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 34. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
38	DM Weatherly Nitric Acid Plant # 1 Cooling Tower	PM	0.1	0.4

33. The permittee shall not exceed 20% opacity from the DM Weatherly Nitric Acid Plant # 1 Cooling Tower as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-38 is demonstrated by compliance with Specific Condition 34. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

34. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-38 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-38’s requirements in Specific Conditions 31, 32, and 33 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN-59
DM Weatherly Nitric Acid Plant # 2

Source Description

EDCC proposes to add a second DM Weatherly Nitric Acid Plant as a part of the proposed facility expansion. The DM Weatherly Nitric Acid Plant #2 (DMW2 Plant, or SN-59) will produce weak nitric acid (61-67% strength) by oxidizing ammonia in the presence of a platinum catalyst. Significant emissions from this process include unreacted nitrogen oxides (NO_x) from the absorption step in the process. Construction of this plant will include installation of a Selective Catalytic Reduction (SCR) unit to control NO_x emissions, which will allow NO_x emissions to be reduced to meet the NSPS Subpart Ga (Standards of Performance for Nitric Acid Plants for which Construction, Reconstruction, or Modification Commenced After October 14, 2011) limit of 0.5 lb/ton of 100% nitric acid produced (30-day rolling average basis, including SSM related emissions). EDCC will utilize tertiary abatement technology to control N_2O emissions from DMW2.

Specific Conditions

35. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum production capacity of 52.7 tons per hour nitric acid production. The permittee shall demonstrate compliance with the NO_x limits by compliance with Specific Conditions 37, 39, 40, 42, and 43. The permittee shall demonstrate compliance with the N_2O limits by compliance with Specific Conditions 3739, 40, and 42. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
59	DM Weatherly Nitric Acid Plant # 2	NO_x	33.8[a]	17.8
		CO_2e	6,200	26,900

a. 3-hr average including SSM.

36. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum production capacity of 52.7 tons per hour nitric acid production. The permittee shall demonstrate compliance with this condition by Specific Conditions 39, 40, and 41. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
59	DM Weatherly Nitric Acid Plant # 2	NH_3	2.7	11.6

37. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 39, 40, and 42. A 12-month demonstration period, commencing with start-up of SN-59, is to be implemented to determine whether the BACT emission limits for DWM #2 currently assigned by ADEQ can be achieved (5 ppm NOx, 6 ppm SSM NOx, and 30 ppm N_2O). The interim BACT limits for DMW #2 over the next 12 months, as proposed by EDCC, shall be as follows. The permittee may submit an application to adjust its final BACT limit should it find the limit to be unachievable. This application must be submitted no later than 3 months after the demonstration period ends, but no later than 18 months after the start-up of SN-59. If the permittee submits an application to adjust these limits within 3 months after the demonstration period ends, the Interim BACT limits will apply until a final decision is made on that application. Should the permittee not submit an application by the deadline, the final BACT limit shall take effect 18 months after start-up of SN-59. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Interim BACT Limit	Final BACT Limit
SN-59	DM Weatherly Nitric Acid Plant # 2	NO_x	0.32 lb NO_X per ton 100% acid produced. Excluding startup shutdown and malfunction rolling 30 day average	0.064 lb NO_X per ton 100% acid produced. Excluding startup shutdown and malfunction rolling 30 day average. Compliance show by CEM. (Limit is based on 5 ppm_v) 17.76 tons per rolling 12 months including SSM Compliance show by CEM. (Limit is based on 6 ppm_v)
		NH_3	5.28 pounds/hr 3-hour average, and 22.08 tons per year, based on stack test (limit based on 20 ppm_v)	2.64 pounds/hr 3-hour average, and 11.54 tons per year, based on stack test (limit based on 10 ppm_v)
		GHG	228.1 tons N_2O per year based on CEM (limit is based on 76 ppm_v)	90.04 tons N_2O per year based on CEM (limit is based on 30 ppm_v)

38. The permittee shall not exceed 0% opacity from the DM Weatherly Nitric Acid Plant # 2 (SN-59) as measured by EPA Reference Method 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

39. The permittee shall not manufacture in excess of 461,725 tons 100% acid equivalent per rolling 12-month total of weak nitric acid through the DM Weatherly Nitric Acid Plant # 2 (SN-59). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

40. The permittee shall keep records of the production manufactured in the DM Weatherly Nitric Acid Plant # 2 (SN-59) as specified in Specific Condition 39. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

41. The permittee shall not exceed the NH_3 limit of 0.05 lb/ton at the DM Weatherly Nitric Acid Plant # 2 (SN-59). The permittee shall have a third party stack test the NH_3 emissions from SN-59 within 180 days after initial startup, and every 12 months thereafter. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The permittee shall test method CTM-027 or an equivalent method approved in advance by the Department. Testing shall be conducted with the source operating at least at 90% of its permitted capacity. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. Testing shall be conducted in accordance with Plantwide Condition 3. SN-59 has a maximum capacity rated at 52.7 ton/hr of acid production. [Reg.19.702 and 40 C.F.R. § 52 Subpart E and Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

42. The permittee shall use the CEMS required in Specific Condition 47 to monitor the N_2O emissions from the DM Weatherly Nitric Acid Plant # 2 (SN-59). The permittee shall not exceed the N_2O limit of 0.39 lb/ton at the DM Weatherly Nitric Acid Plant # 2 (SN-59). Compliance will be demonstrated on a rolling 3-hour average. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

43. DM Weatherly Nitric Acid Plant # 2 (SN-59) is considered an affected source under 40 C.F.R. § 60, Subpart Ga - *Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011*, and is subject to, but not limited to, Specific Conditions 44 through 73. [Reg.19.304 and 40 C.F.R. § 60 Subpart Ga]

44. On and after the date on which the performance test required to be conducted by § 60.73a(e) is completed, you may not discharge into the atmosphere from any affected facility any gases which contain NO_x, expressed as NO_2, in excess of 0.50 pounds (lb) per ton of nitric acid produced, as a 30-day emission rate calculated based on 30 consecutive operating days, the production being expressed as 100 percent nitric acid. The emission standard applies at all times. [Reg.19.304 and 40 C.F.R. § 60.72a]

45. You must install and operate a NO_x concentration (ppmv) continuous emissions monitoring system (CEMS). You must also install and operate a stack gas flow rate monitoring system. With measurements of stack gas NO_x concentration and stack gas flow rate, you will determine hourly NO_x emissions rate (e.g., lb/hr) and with measured data of the hourly nitric acid production (tons), calculate emissions in units of the applicable emissions limit (lb/ton of 100 percent acid produced). You must operate the monitoring system and report emissions during all operating periods including unit startup and shutdown, and malfunction. [Reg.19.304 and 40 C.F.R. § 60.73a(a)]

46. You must install, calibrate, maintain, and operate a CEMS for measuring and recording the concentration of NO_x emissions in accordance with the provisions of § 60.13 and Performance Specification 2 of Appendix B and Procedure 1 of Appendix F of 40 C.F.R. § 60. You must use cylinder gas audits to fulfill the quarterly auditing requirement at section 5.1 of Procedure 1 of Appendix F of 40 C.F.R. § 60 for the NO_x concentration CEMS. [Reg.19.304 and 40 C.F.R. § 60.73a(b)(1)]

47. For the NO_x concentration CEMS, use a span value, as defined in Performance Specification 2, section 3.11, of Appendix B of 40 C.F.R. § 60, of 500 ppmv (as NO_2). If you emit NO_x at concentrations higher than 600 ppmv (e.g., during startup or shutdown periods), you must apply a second CEMS or dual range CEMS and a second span value equal to 125 percent of the maximum estimated NO_x emission concentration to apply to the second CEMS or to the higher of the dual analyzer ranges during such periods. [Reg.19.304 and 40 C.F.R. § 60.73a(b)(2)]

48. For conducting the relative accuracy test audits, per Performance Specification 2, section 8.4, of Appendix B of 40 C.F.R. § 60 and Procedure 1, section 5.1.1, of Appendix F of 40 C.F.R. § 60, use either EPA Reference Method 7, 7A, 7C, 7D, or 7E of Appendix A-4 of 40 C.F.R. § 60; EPA Reference Method 320 of Appendix A of 40 C.F.R. § 63; or ASTM D6348-03 (incorporated by reference, see § 60.17). To verify the operation of the second CEMS or the higher range of a dual analyzer CEMS described in paragraph (b)(2) of § 60.73a, you need not conduct a relative accuracy test audit but only the calibration drift

test initially (found in Performance Specification 2, section 8.3.1, of Appendix B of 40 C.F.R. § 60) and the cylinder gas audit thereafter (found in Procedure 1, section 5.1.2, of Appendix F of 40 C.F.R. § 60). [Reg.19.304 and 40 C.F.R. § 60.73a(b)(3)]

49. If you use EPA Reference Method 7E of Appendix A-4 of 40 C.F.R. § 60, you must mitigate loss of NO_2 in water according to the requirements in paragraphs (b)(4)(i), (ii), or (iii) of § 60.73a and verify performance by conducting the system bias checks required in EPA Reference Method 7E, section 8, of Appendix A-4 of 40 C.F.R. § 60 according to (b)(4)(iv) of § 60.73a, or follow the dynamic spike procedure according to paragraph (b)(4)(v) of § 60.73a.

   a. For a wet-basis measurement system, you must measure and report temperature of sample line and components (up to analyzer inlet) to demonstrate that the temperatures remain above the sample gas dew point at all times during the sampling.
   b. You may use a dilution probe to reduce the dew point of the sample gas.
   c. You may use a refrigerated-type condenser or similar device (e.g., permeation dryer) to remove condensate continuously from sample gas while maintaining minimal contact between condensate and sample gas.
   d. If your analyzer measures nitric oxide (NO) and nitrogen dioxide (NO_2) separately, you must use both NO and NO_2 calibration gases. Otherwise, you must substitute NO_2 calibration gas for NO calibration gas in the performance of system bias checks.
   e. You must conduct dynamic spiking according to EPA Reference Method 7E, section 16.1, of Appendix A-4 of 40 C.F.R. § 60 using NO_2 as the spike gas.

   [Reg.19.304 and 40 C.F.R. § 60.73a(b)(4)]

50. Instead of a NO_x concentration CEMS meeting Performance Specification 2, you may apply an FTIR CEMS meeting the requirements of Performance Specification 15 of Appendix B of 40 C.F.R. § 60 to measure NO_x concentrations. Should you use an FTIR CEMS, you must replace the Relative Accuracy Test Audit requirements of Procedure 1 of appendix F of 40 C.F.R. § 60 with the validation requirements and criteria of Performance Specification 15, sections 11.1.1 and 12.0, of Appendix B of 40 C.F.R. § 60. [Reg.19.304 and 40 C.F.R. § 60.73a(b)(5)]

51. You must use the NO_x concentration CEMS, acid production, gas flow rate monitor and other monitoring data to calculate emissions data in units of the applicable limit (lb NO_x /ton of acid produced expressed as 100 percent nitric acid). [Reg.19.304 and 40 C.F.R. § 60.73a(c)]

52. You must install, calibrate, maintain, and operate a CEMS for measuring and recording the stack gas flow rates to use in combination with data from the CEMS for measuring emissions concentrations of NO_x to produce data in units of mass rate (e.g., lb/hr) of NO_x on an hourly basis. You will operate and certify the continuous emissions rate monitoring

system (CERMS) in accordance with the provisions of § 60.13 and Performance Specification 6 of Appendix B of 40 C.F.R. § 60. You must comply with the following provisions in (c)(1)(i) through (iii) of § 60.73a.

a. You must use a stack gas flow rate sensor with a full scale output of at least 125 percent of the maximum expected exhaust volumetric flow rate (see Performance Specification 6, section 8, of Appendix B of 40 C.F.R. § 60).
b. For conducting the relative accuracy test audits, per Performance Specification 6, section 8.2 of Appendix B of 40 C.F.R. § 60 and Procedure 1, section 5.1.1, of Appendix F of 40 C.F.R. § 60, you must use either EPA Reference Method 2, 2F, or 2G of Appendix A-4 of 40 C.F.R. § 60. You may also apply Method 2H in conjunction with other velocity measurements.
c. You must verify that the CERMS complies with the quality assurance requirements in Procedure 1 of Appendix F of 40 C.F.R. § 60. You must conduct relative accuracy testing to provide for calculating the relative accuracy for RATA and RAA determinations in units of lb/hour.

[Reg.19.304 and 40 C.F.R. § 60.73a(c)(1)]

53. You must determine the nitric acid production parameters (production rate and concentration) by installing, calibrating, maintaining, and operating a permanent monitoring system (e.g., weigh scale, volume flow meter, mass flow meter, tank volume) to measure and record the weight rates of nitric acid produced in tons per hour. If your nitric acid production rate measurements are for periods longer than hourly (e.g., daily values), you will determine average hourly production values, tons acid/hr, by dividing the total acid production by the number of hours of process operation for the subject measurement period. You must comply with the following provisions in (c)(2)(i) through (iv) of § 60.73a.

a. You must verify that each component of the monitoring system has an accuracy and precision of no more than ±5 percent of full scale.
b. You must analyze product concentration via titration or by determining the temperature and specific gravity of the nitric acid. You may also use ASTM E1584-11 (incorporated by reference, see § 60.17), for determining the concentration of nitric acid in percent. You must determine product concentration daily.
c. You must use the acid concentration to express the nitric acid production as 100 percent nitric acid.
d. You must record the nitric acid production, expressed as 100 percent nitric acid, and the hours of operation.

[Reg.19.304 and 40 C.F.R. § 60.73a(c)(2)]

54. You must calculate hourly NO_x emissions rates in units of the standard (lb/ton acid) for each hour of process operation. For process operating periods for which there is little or

no acid production (e.g., startup or shutdown), you must use the average hourly acid production rate determined from the data collected over the previous 30 days of normal acid production periods (see § 60.75a). [Reg.19.304 and 40 C.F.R. § 60.73a(c)(3)]

55. For each continuous monitoring system, including NO_x concentration measurement, volumetric flow rate measurement, and nitric acid production measurement equipment, you must meet the requirements in paragraphs (d)(1) through (3) of § 60.73a.

    a. You must operate the monitoring system and collect data at all required intervals at all times the affected facility is operating except for periods of monitoring system malfunctions or out-of-control periods as defined in Appendix F, sections 4 and 5, of 40 C.F.R. § 60, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments.
    b. You may not use data recorded during 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 calculations used to report emissions or operating levels. You must use all the data collected during all other periods in calculating emissions and the status of compliance with the applicable emissions limit in accordance with § 60.72a(a).

    [Reg.19.304 and 40 C.F.R. § 60.73a(d)]

56. You must conduct an initial performance test to demonstrate compliance with the NO_x emissions limit under § 60.72a(a) beginning in the calendar month following initial certification of the NO_x and flow rate monitoring CEMS. The initial performance test consists of collection of hourly NO_x average concentration, mass flow rate recorded with the certified NO_x concentration and flow rate CEMS and the corresponding acid generation (tons) data for all of the hours of operation for the first 30 days beginning on the first day of the first month following completion of the CEMS installation and certification as described above. You must assure that the CERMS meets all of the data quality assurance requirements as per § 60.13 and Appendix F, Procedure 1, of 40 C.F.R. § 60 and you must use the data from the CERMS for this compliance determination. [Reg.19.304 and 40 C.F.R. § 60.73a(e)]

57. In response to an action to enforce the standards set forth in § 60.72a, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. [Reg.19.304 and 40 C.F.R. § 60.74a]

58. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of § 60.74a, and must prove by a preponderance of evidence that:

a. The violation:
   i. Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
   ii. Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
   iii. Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
   iv. Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
b. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
c. The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
d. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
e. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and
f. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
g. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
h. At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions; and
i. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

[Reg.19.304 and 40 C.F.R. § 60.74a(a)]

59. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of § 60.74a. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial

occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard. [Reg.19.304 and 40 C.F.R. § 60.74a(b)]

60. You must calculate the 30 operating day rolling arithmetic average emissions rate in units of the applicable emissions standard (lb NO_x /ton 100 percent acid produced) at the end of each operating day using all of the quality assured hourly average CEMS data for the previous 30 operating days. [Reg.19.304 and 40 C.F.R. § 60.75a(a)]

61. You must calculate the 30 operating day average emissions rate according to Equation 1:

$$E_{30} = k\frac{1}{n}\sum_{i=1}^{n}\frac{C_i Q_i}{P_i} \qquad \text{(Eq. 1)}$$

Where:

E_{30} = 30 operating day average emissions rate of NO_x , lb NO_x /ton of 100 percent HNO_3 ;

C_i = concentration of NO_x for hour i, ppmv;

Q_i = volumetric flow rate of effluent gas for hour i, where C_i and Q_i are on the same basis (either wet or dry), scf/hr;

P_i = total acid produced during production hour i, tons 100 percent HNO_3 ;

k = conversion factor, 1.194×10^{-7} for NO_x ; and

n = number of operating hours in the 30 operating day period, i.e., n is between 30 and 720.

[Reg.19.304 and 40 C.F.R. § 60.75a(b)]

62. For the NO_x emissions rate, you must keep records for and results of the performance evaluations of the continuous emissions monitoring systems. [Reg.19.304 and 40 C.F.R. § 60.76a(a)]

63. You must maintain records of the following information for each 30 operating day period:

a. Hours of operation.
b. Production rate of nitric acid, expressed as 100 percent nitric acid.
c. 30 operating day average NO_x emissions rate values.

[Reg.19.304 and 40 C.F.R. § 60.76a(b)]

64. You must maintain records of the following time periods:

a. Times when you were not in compliance with the emissions standards.

b. Times when the pollutant concentration exceeded full span of the NO_x monitoring equipment.
c. Times when the volumetric flow rate exceeded the high value of the volumetric flow rate monitoring equipment.

[Reg.19.304 and 40 C.F.R. § 60.76a(c)]

65. You must maintain records of the reasons for any periods of noncompliance and description of corrective actions taken. [Reg.19.304 and 40 C.F.R. § 60.76a(d)]

66. You must maintain records of any modifications to CEMS which could affect the ability of the CEMS to comply with applicable performance specifications. [Reg.19.304 and 40 C.F.R. § 60.76a(e)]

67. For each malfunction, you must maintain records of the following information:

a. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
b. Records of actions taken during periods of malfunction to minimize emissions in accordance with § 60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[Reg.19.304 and 40 C.F.R. § 60.76a(f)]

68. The performance test data from the initial and subsequent performance tests and from the performance evaluations of the continuous monitors must be submitted to the Administrator at the appropriate address as shown in 40 CFR 60.4. [Reg.19.304 and 40 C.F.R. § 60.77a(a)]

69. The following information must be reported to the Administrator for each 30 operating day period where you were not in compliance with the emissions standard:

a. Time period;
b. NO_x emission rates (lb/ton of acid produced);
c. Reasons for noncompliance with the emissions standard; and
d. Description of corrective actions taken.

[Reg.19.304 and 40 C.F.R. § 60.77a(b)]

70. You must also report the following whenever they occur:

a. Times when the pollutant concentration exceeded full span of the NO_x pollutant monitoring equipment.

b. Times when the volumetric flow rate exceeded the high value of the volumetric flow rate monitoring equipment.

[Reg.19.304 and 40 C.F.R. § 60.77a(c)]

71. You must report any modifications to CERMS which could affect the ability of the CERMS to comply with applicable performance specifications. [Reg.19.304 and 40 C.F.R. § 60.77a(d)]

72. Within 60 days of completion of the relative accuracy test audit (RATA) required by this subpart, you must submit the data from that audit to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/SSL/cdx/EPA_Home.asp). You must submit performance test data in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (http://www.epa.gov/ttn/chief/ert/index.html). Only data collected using test methods listed on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this paragraph. Mark the compact disk or other commonly used electronic storage media clearly as CBI and mail to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, you must also submit these reports to the delegated authority in the format specified by the delegated authority. You must submit the other information as required in the performance evaluation as described in § 60.2 and as required in 40 CFR Chapter I. [Reg.19.304 and 40 C.F.R. § 60.77a(e)]

73. If a malfunction occurred during the reporting period, you must submit a report that contains the following:

a. 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.
b. A description of actions taken by an owner or operator during a malfunction of an affected facility to minimize emissions in accordance with § 60.11(d), including actions taken to correct a malfunction.

[Reg.19.304 and 40 C.F.R. § 60.77a(f)]

SN-60
DM Weatherly Nitric Acid Plant # 2 Cooling Tower

Source Description

The DM Weatherly Nitric Acid Plant # 2 Cooling Tower (SN-60) provides non-contact cooling water to the process equipment in the DM Weatherly Nitric Acid Plant # 2 (SN-59), the East and West Nitric Acid Plants (SN-08 and SN-09), the NACSAC® Plant (SN-47), and the ammonia shipping and storage refrigeration system. Particulate matter is emitted during operation of the cooling tower.

Specific Conditions

74. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 77. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
60	DM Weatherly Nitric Acid Plant # 2 Cooling Tower	PM_{10}	0.5	2.1
		$PM_{2.5}$	0.5	2.1

75. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 77. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
60	DM Weatherly Nitric Acid Plant # 2 Cooling Tower	PM	0.5	2.1

76. The permittee shall not exceed 5% opacity from the DM Weatherly Nitric Acid Plant # 2 Cooling Tower as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-60 is demonstrated by compliance with Specific Condition 77. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

77. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-60 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-60's requirements in Specific Conditions 74, 75, and 76 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN-47
Nitric Acid Concentration Plant (NACSAC® Plant)

Source Description

The PLINKE designed NACSAC® Plant (SN-47) concentrates weak nitric acid (61% - 67% strength) to strong nitric acid (greater than 98% strength) by extracting water from the weak nitric acid with sulfuric acid, which is then dehydrated and recycled to the front end of the process.

Specific Conditions

78. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on a production of the NACSAC plant not exceeding 125 tons per day. The permittee shall demonstrate compliance with this condition by Specific Conditions 80, 81, and 82. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
47	Nitric Acid Concentration Plant (NACSAC® Plant)	NO_x	0.2	0.6

79. The permittee shall not exceed 5% opacity from the Nitric Acid Concentration Plant (SN-47) as measured by EPA Reference Method 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

80. The permittee shall not manufacture in excess of 5.2 tons 100% acid equivalent per hour of strong nitric acid through the Nitric Acid Concentration Plant (SN-47). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

81. The permittee shall not manufacture in excess of 45,625 tons 100% acid equivalent per rolling 12-month total of strong nitric acid through the Nitric Acid Concentration Plant (SN-47). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

82. The permittee shall keep records of the production manufactured in the Nitric Acid Concentration Plant (SN-47) as specified in Specific Conditions 80 and 81. These records shall identify any hour during which acid in excess of the quantities specified in Specific Condition 80 was produced, and shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month

following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

Nitric Acid Vent Collection System

SN-10
Nitric Acid Vent Collection System

Source Description

In October of 1997, a packed tower hydrogen peroxide scrubber was installed to control nitrogen oxide emissions. The top portion of the packed tower treats nitrogen oxide emissions from the weak nitric acid storage vents (Tanks 49, 50, and 51, as well as three (3) new tanks being added with the facility expansion). The bottom section of the packed tower treats the nitrogen oxide emissions present in the blend acid tanks (Tanks 43, 44, 45, and 46) bleaching air stream. The nitric acid loading system vents (SN-29) are also collected and routed to the packed tower. The overheads from the packed tower are routed through a Venturi Scrubber for additional treatment before being vented to the atmosphere through a stack designated as SN-10. The strong nitric acid storage tank vents (Tanks 47, 48, 66, 67, 68, 69, 70 and 71) are routed directly to the Venturi Scrubber (i.e. bypass the packed tower). Overall nitrogen oxide and visible emissions are reduced due to these pollution control devices.

With the issuance of Air Permit 0573-AOP-R8, the Car Barn Scrubber (previously permitted as SN-37) was removed as a source. The nitric acid fumes resulting from the cleaning and pressure checking of rail cars (conducted in the Car Barn) are now routed to SN-10 for control.

The uncontrolled emissions from SN-10 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for NO_x, (2) the source is equipped with a control device, and (3) the unit has potential <u>pre-control</u> emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limit at this source.

Specific Conditions

83. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity of 27,000 gallons per hour. Compliance with this Specific Condition will be verified by proper operation of the Venturi and Packed Tower Scrubber and compliance with Specific Conditions 86 and 88. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
10	Nitric Acid Vent Collection System	NO_x	19.5	85.1

84. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity of 27,000 gallons per hour. Compliance with this Specific Condition will be verified by proper operation of the Venturi and Packed Tower Scrubber and compliance with Specific Conditions 86 and 88. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
10	Nitric Acid Vent Collection System	HNO_3	3.9	11.1

85. The permittee shall not exceed 20% opacity from the Nitric Acid vent collection system (SN-10) as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-10 is demonstrated by compliance with Plantwide Condition 9. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

86. The permittee shall test SN-10 for NO_x emissions. The permittee shall have a third party stack test the NO_x emissions from SN-10 once every 60 months. The permittee shall use EPA Method 7E or a method approved in advance by the Department. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The facility will conduct rail car/truck loading and/or acid blending operations at normal operational rates when the stack test is performed. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

87. The permittee shall test SN-10 for Nitric Acid (HNO_3) emissions. The permittee shall have a third party stack test the HNO_3 emissions from SN-10 once every 60 months. The permittee shall use a method approved in advance by the Department. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The equipment which the nitric acid vent collection system serves as a pollution control device shall be operating at normal capacity when the testing is performed. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

88. The permittee shall not operate the nitric acid vent collection system without a functional hydrogen peroxide scrubber and a Venturi and Packed Tower Scrubber. The permittee shall sample, test and record daily the hydrogen peroxide concentration of the chemical condensate circulated at the scrubber outlet. These records shall be updated by the 15th of the month following which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. The permittee shall submit a summary

of data including all information as required in the General Provision 8 if applicable. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

Sulfuric Acid Plant

SN-07
Sulfuric Acid Plant

Source Description

The Sulfuric Acid Plant (SN-07), originally constructed in 1949 when Lion Oil Company operated the facility, is a single absorption contact process of the Chemco design. The plant was later modified by Monsanto (Leonard). The plant has been upgraded over the years to include emissions control systems, updated acid cooling technology, and process control equipment.

The Sulfuric Acid Plant (SN-07) manufactures sulfuric acid at 93% - 99% strength through the combustion of sulfur to form sulfur dioxide, the use of oxygen to convert the newly formed sulfur dioxide to sulfur trioxide, and then finally the double absorption of sulfur trioxide with water to form sulfuric acid. The Sulfuric Acid Plant is subject to 40 C.F.R. § 60 Subpart H (Standard of Performance for Sulfuric Acid Plants), which limits sulfur dioxide (SO_2) and sulfuric acid mist (H_2SO_4) emissions to 4.0 pounds per ton of 100% acid production and 0.15 pounds per ton of 100% acid production, respectively.

The uncontrolled emissions from SN-07 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per § 64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for SO_2, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of SO_2 that exceed the applicable major source threshold. In accordance with § 64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the SO_2 emission limit at this source.

Specific Conditions

89. The permittee shall not exceed the emission rates set forth in the following table. Compliance of SO_2 with this Specific Condition is demonstrated by compliance with Specific Conditions 92, 93, 94 and 99. Compliance of SO_2 is also demonstrated by the CEM required in Specific Condition 93. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
07	Sulfuric Acid Plant	SO_2	92.0[a]	401.5
		SO_2	4.0 lb/ton, expressed as 100 percent H_2SO_4, and based on a 3-hr average.	

a. Based on a 3-hr average.

90. The permittee shall not exceed the emission rates set forth in the following table. Compliance of sulfuric acid mists with this Specific Condition is demonstrated by compliance with Specific Conditions 92 and 93. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
07	Sulfuric Acid Plant	H_2SO_4	2.9	12.4

91. The permittee shall not exceed 10% opacity from the Sulfuric Acid Plant (SN-07) as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-07 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

92. The permittee shall not manufacture in excess of 200,750 tons of 100% sulfuric acid per rolling 12-month total through the sulfuric acid plant. The permittee shall keep records of the amount of sulfuric acid produced at the facility. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

93. Sulfuric Acid Plant (SN-07) is subject to and shall comply with applicable provisions of 40 C.F.R. § 60, Subpart H – *Standards of Performance for Sulfuric Acid Plants*. Applicable provisions of Subpart H include, but are not limited to, the following: [Reg.19.304 and 40 C.F.R. § 60.80]

   a. The permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H_2SO_4. [Regulation 19, §19.304 and 40 CFR § 60.82]
   b. The permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which:
      (1) Contain acid mist, expressed as H_2SO_4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.
      (2) Exhibit 10 percent opacity, or greater.
      [Regulation 19, §19.304 and 40 CFR § 60.83]
   c. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under § 60.13(d), shall be sulfur dioxide (SO_2). Method 6C shall be used for conducting monitoring system performance

evaluations under § 60.13(c). The span value shall be set at 1000 ppm of sulfur dioxide. [Regulation 19, §19.304 and 40 CFR § 60.84(a)]

d. The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999–AP–13) and calculating the appropriate conversion factor for each eight-hour period as follows:
$CF=k[(1.000-0.015r)/(r-s)]$
where:
CF=conversion factor (kg/metric ton per ppm, lb/ton per ppm).
k=constant derived from material balance. For determining CF in metric units, k=0.0653. For determining CF in English units, k=0.1306.
r=percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Department's approval.
s=percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under § 60.84(a). [Regulation 19, §19.304 and 40 CFR § 60.84(b)]

e. The owner or operator shall record all conversion factors and values under § 60.84(b) from which they were computed (i.e., CF, r, and s). [Regulation 19, §19.304 and 40 CFR § 60.84(c)]

f. Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2 monitor shall be as specified in § 60.84(b). The span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:
$Es=(CsS)/[0.265-(0.126\ \%O_2)-(A\ \%CO_2)]$
where:
Es=emission rate of SO_2, kg/metric ton (lb/ton) of 100 percent of H_2SO_4 produced.
Cs=concentration of SO_2, kg/dscm (lb/dscf).
S=acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H_2SO_4 produced.
$\%O_2$=oxygen concentration, percent dry basis.
A=auxiliary fuel factor,

=0.00 for no fuel.
=0.0226 for methane.
=0.0217 for natural gas.
=0.0196 for propane.
=0.0172 for No 2 oil.
=0.0161 for No 6 oil.
=0.0148 for coal.
=0.0126 for coke.
$\%CO_2$= carbon dioxide concentration, percent dry basis.
[Regulation 19, §19.304 and 40 CFR § 60.84(d)]

g. For the purpose of reports under § 60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under § 60.82. [Regulation 19, §19.304 and 40 CFR § 60.84(e)]
h. The permittee shall comply with the test methods and procedures in 40 CFR § 60.85. [Reg.19.304 and 40 C.F.R. § 60.85]

94. The permittee shall not exceed the SO_2 limit defined in Specific Condition 93 during any three-hour period. Compliance with this condition shall be demonstrated by the CEM required in Specific Condition 93. These records shall be kept on site, and shall be made available to Department personnel upon request. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

A reasonable possibility, as defined under paragraph (r)(6) of 40 CFR §52.21, exists for SO_2 due to the maintenance, repair, and replacement (MRR) activities requested in the application for Permit 0573-AOP-R14.

95. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the SO_2 emission limits is demonstrated by compliance with Specific Conditions 92, 93, 94 and 99. Compliance with the SO_2 emission limits is also demonstrated by the CEM required in Specific Condition 93. [Reg.19.501 *et seq.*, Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
07	Sulfuric Acid Plant	SO_2	92.0[a]	386.8
		SO_2	4.0 lb/ton, expressed as 100 percent H_2SO_4, and based on a 3-hr average.	

a. Based on a 3-hr average.

96. The permittee shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the maintenance, repair, and replacement (MRR) activities requested in the application for Permit 0573-AOP-R14 and that is emitted by any

emissions unit identified in 40 C.F.R. § 52.21(r)(6)(i)(b); and 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. The MRR activities authorized by Permit 0573-AOP-R14 were completed, and regular operations at SN-07 resumed on November 20, 2012; thus, the 5-year period stipulated in this condition will end on November 20, 2017The permittee shall demonstrate compliance with this condition by complying with Specific Conditions 90 and 91. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

97. The permittee shall submit a report to the Administrator if the annual emissions, in tons per year, from the maintenance, repair, and replacement (MRR) activities requested in the application for Permit 0573-AOP-R14, exceed the baseline actual emissions (as documented and maintained pursuant to 40 C.F.R. § 52.21(r)(6)(i)(c)), by a significant amount (as defined in paragraph 40 C.F.R. § 52.21(b)(23)) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 C.F.R. § 52.21(r)(6)(i)(c). Such report shall be submitted to the Administrator within 60 days after the end of such year. The report shall contain the following:

   a. The name, address and telephone number of the major stationary source;
   b. The annual emissions as calculated pursuant to 40 C.F.R. § 52.21(r)(6)(iii); and
   c. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

   [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

98. The permittee shall maintain annual emissions, in tons per year on a calendar basis, of the actual SO_2 emissions from SN-07. The permittee shall use CEMS data when available. When CEMS data is not available, the permittee shall document how the actual emissions were determined, subject to review and approval by the Department[Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

99. The permittee shall not manufacture in excess of 550 tons of 100% sulfuric acid per day through the sulfuric acid plant. These records shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-30
Sulfuric Acid Loading

Source Description

The sulfuric acid produced at EDCC is loaded into rail cars or trucks. Loading losses occurring as vapors are displaced to the atmosphere by the liquid being loaded into the rail cars or trucks.

Specific Conditions

100. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on engineering estimates and production. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition 101. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
30	Sulfuric Acid Loading	H_2SO_4	0.03	0.05

101. The permittee shall not load in excess of 200,750 tons of sulfuric acid (100% acid equivalent) per rolling 12-month total. The permittee shall keep records of the sulfuric acid shipped by truck and by rail from the facility. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-46
Sulfuric Acid Plant Cooling Tower

Source Description

The Sulfuric Acid Plant cooling tower uses a combination of river water and cooling system condensation water to cool the heat generated by the sulfuric acid production process.

Specific Conditions

102. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 105. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
46	Sulfuric Acid Plant Cooling Tower	PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1

103. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 105. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
46	Sulfuric Acid Plant Cooling Tower	PM	0.1	0.1

104. The permittee shall not exceed 20% opacity from the Sulfuric Acid Plant Cooling Tower (SN-46) as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-46 is demonstrated by compliance with Specific Condition 105. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

105. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-46 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-46's requirements in Specific Conditions 102, 103, and 104 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

E2 Ammonium Nitrate Plant

SN-05A and B, and SN-41
Scrubbers

Source Description

The Ammonium Nitrate E2 Plant Brinks Scrubber (SN-05A and SN-05B) controls emissions from the E2 prill towers and cooling trains, the intermediate ammonium nitrate storage tanks, and the E2 Plant Chemical Condensate Tank. The E2 Plant Brinks Scrubber (SN-05) is actually two scrubbers, one for each prill tower. EDCC has the ability to shut down one scrubber and the associated prill tower. When one scrubber is shut down, EDCC will not operate the associated prill tower while the scrubber is not operating.

The E2 Plant Chemical Steam Scrubber (SN-41) controls particulate matter and ammonia emissions from the three E2 Plant Neutralizers (formerly SN-02 and SN-03, and a third neutralizer added in 2002), the Ammonium Nitrate Low Concentrator (formerly SN-04), and the E2 Auxiliary Ammonium Nitrate Concentrator (formerly SN-20).

The uncontrolled emissions from SN-05 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for PM_{10}, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of PM_{10} that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the PM_{10} emission limit at this source.

Specific Conditions

106. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity at SN-05 of 60 tons per hour of finished product, maximum capacity at SN-41 of 61.5 tons per hour and stack testing results. Compliance with the emission limits for SN-05A and B is demonstrated by compliance with Specific Conditions 110, 111, 112, and 113. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
05A	Ammonium Nitrate E2 Brinks Scrubber A	PM_{10} $PM_{2.5}$	1.6 1.6	6.7 6.7
05B	Ammonium Nitrate E2 Brinks Scrubber B	PM_{10} $PM_{2.5}$	1.6 1.6	6.7 6.7

SN	Description	Pollutant	lb/hr	tpy
06	E2 Ammonium Nitrate Prill Tower Fans	Exhausts from Prill Towers and Cooling Trains are routed to SN-05A and B		

107. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity at SN-05 of 60 tons per hour of finished product, maximum capacity at SN-41 of 61.5 tons per hour and stack testing results. Compliance with the emission limits for SN-05 is demonstrated by compliance with Specific Conditions 109, 110, 111, 112, and 113. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions 111, 112, and 118. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
05A	Ammonium Nitrate E2 Brinks Scrubber A	PM NH_3	1.6 0.8	6.7 3.1
05B	Ammonium Nitrate E2 Brinks Scrubber B	PM NH_3	1.6 0.8	6.7 3.1
06	E2 Ammonium Nitrate Prill Tower Fans	Exhausts from Prill Towers and Cooling Trains are routed to SN-05A and B		
41	E2 Plant Chemical Steam Scrubber	NH_3	10.0	43.8

108. The permittee shall not exceed 5% opacity from SN-05 and 5% opacity from SN-41 as measured by EPA Reference Method 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

109. The permittee shall have a third party annually stack test the NH_3 emissions from SN-05A and B within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. After the initial tests, the permittee shall test one of the scrubbers on an alternating basis every 12 months thereafter. The stack tests shall be performed using Test method CTM-027 or an equivalent method approved by the Department shall be used for Ammonia. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted

emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. For SN-05, 90% rated capacity is defined as:

a. The 90% of the rated capacity of the prill towers will be on an ammonium nitrate production basis.
b. The product exit temperature at the prill towers at the time of test must be less than 275°F.

[Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

110. The permittee shall have a third party stack test the PM, PM_{10}, and $PM_{2.5}$ emissions from SN-05A and B within 180 days after completion of the Expansion Project. After the initial tests, the permittee shall test one of the scrubbers on an alternating basis every 12 months thereafter. Analysis for SN-05A and B shall be conducted using a method approved in advance by the Department. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. The rated capacity of the E2 Plant Prill Tower Process rate is defined as 60.0 tons/hr. For SN-05, 90% of rated capacity is defined as:

a. The 90% of the rated capacity of the prill towers will be on an ammonium nitrate production basis.
b. The product exit temperature at the prill towers at the time of test must be less than 275°F.

[Reg.19.702 and 40 C.F.R. § 52 Subpart E]

111. The permittee shall not manufacture in excess of 525,600 tons of ammonium nitrate prills through the E2 Ammonium Nitrate Plant during any consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

112. The permittee shall keep records of the ammonium nitrate prills production in the E2 Ammonium Nitrate Plant as specified in Specific Condition 111. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

113. The Plant Brinks Scrubbers (SN-05A and B) and the E2 Plant Chemical Steam Scrubber (SN-41) shall be kept in good working condition at all times. SN-05A and B shall meet the conditions shown in the following table when the plant is operating. The monitoring parameters for SN-05A and B shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 12 a.m. to 12 a.m. where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data shall be recorded every 4 hours when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parametric exceedance, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and be made available to Department personnel upon request. The permittee shall submit a summary of data including all information as required in the General Provision 8 if applicable.

SN	Description	Parameter	Units	Operation Limits
SN-05A and B	E2 Plant Brinks Scrubber	Scrubber Liquid Flow Rate for Each Scrubber	gal/min	225 (minimum)
		Gas Pressure Drop Across Unit for Each Scrubber	in. H_2O	2.5 (minimum)
		pH	-	0.5 - 6.0

[Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and 40 C.F.R. § 64]

114. The permittee shall operate, maintain, and submit reports for the continuous monitoring device for SN-41, as required by Specific Condition 118, in accordance with all applicable requirements of ADEQ CEMS Conditions, located in Appendix H of this

permit. The applicable requirements of ADEQ CEMS Conditions include, but are not limited to, the following:

a. The stack gas sampling system at SN-41 shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
b. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
c. The permittee shall maintain records of the occurrence and duration of startup/shutdown, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of SN-41 which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
d. The permittee shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter.
e. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.
f. The permittee must maintain on site a file of the continuous monitored data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.
g. The permittee shall develop and implement a Quality Assurance/Quality Control (QA/QC) plan within 90 days of permit issuance, and shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability. The permittee must keep a copy of the QA/QC Plan at the source's location and retain all previous versions of the QA/QC Plan for five years.
h. The submitted QA/QC plan shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.
i. A back-up monitor may be placed on SN-41 to minimize monitor downtime. This back-up sampling and monitoring system is subject to the same QA/QC procedure and practices as the primary sampling and monitoring system. When the primary sampling and monitoring system goes down, the back-up sampling and

monitoring system may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up sampling and monitoring system is placed in service, these records shall include at a minimum the reason the primary sampling and monitoring system is out of service, the date and time the primary sampling and monitoring system was out of service and the date and time the primary sampling and monitoring system was placed back in service.

[Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

115. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on a maximum capacity of 61.5 tons per hour. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions, 111, 112, 114, 116, 117, and 118. [Reg.19.901 et seq. and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
41	E2 Plant Chemical Steam Scrubber	PM PM_{10} $PM_{2.5}$	13.8 (daily 24-hr average)	14.6
		PM PM_{10} $PM_{2.5}$	3.4 (30-day rolling average)	

116. The 30-day rolling average PM_{10} emissions from SN-41 shall not exceed 0.054 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the PM_{10} testing requirement of Specific Condition 118. [Reg.19.901 et seq. and 40 C.F.R. § 52 Subpart E]

117. The daily 24-hour average PM_{10} emissions from SN-41 shall not exceed 0.223 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the PM_{10} testing requirement of Specific Condition 118. [Reg.19.901 et seq. and 40 C.F.R. § 52 Subpart E]

118. The permittee shall continue to conduct continuous sampling of the stack gas at SN-41 to produce two 12-hr composite samples each day to demonstrate compliance with the limits in Specific Conditions 115 and 117. The permittee shall maintain a 30-day rolling average of the PM_{10} emissions at SN-41 to demonstrate compliance with the limits in Specific Conditions 115 and 116.

Each 12-hour composite sample shall be analyzed using Method EDCC-330.2 (to determine ammonia concentration) and EPA Method 300.0 “Determination of Inorganic

Anions by Ion Chromatography" (to determine nitrate concentration). EDCC's analysis procedure for ammonia shall be consistent with Method 4500-NH_3 from "Standard Methods for the Examination of Water and Wastewater, 19th Edition". The data from the analyses shall be entered into an Excel spreadsheet on a daily basis to calculate the mass concentrations of ammonia (as NH_3) and condensable particulate (as NH_4NO_3) in the vapor stream leaving SN-41. Total vapor flow from process equipment controlled by SN-41 (i.e., Auxiliary Concentrator, E2 Low Concentrator, Fresh Neutralizer, Off-Gas Neutralizer, and the #4 Neutralizer) shall be assumed to be at maximum rates for initial calculations/compliance demonstration purposes. Should spreadsheet results indicate an exceedance of the permitted rate for ammonia/particulate matter, EDCC shall calculate the actual total vapor flow rate by mass balance around the operations that feed vapors to SN-41 to verify compliance, based on the following:

- The vapor stream from the Auxiliary Concentrator will be considered to be at its maximum rate if the unit is in operation.
- The vapor stream from the Low Concentrator will be calculated based on the measured prill production rate and solution concentrations.
- Vapor flow from the neutralizers will be calculated based on the acid and ammonia feed rates and the acid and product solution concentrations.

The permittee shall maintain an emission inventory spreadsheet for particulate matter and ammonia emissions from SN-41. The spreadsheet shall contain each 12-hour composite sample result and shall be used to maintain a daily, 24-hour average result to demonstrate compliance with the lb/hr emission limits and a 12-month rolling total to demonstrate compliance with the annual emission limits. A valid 12-hour period is defined as beginning at 8:00 a.m. and at 8:00 p.m. This information shall be submitted in accordance with General Provision 7.

[Reg.19.702 and 40 C.F.R. § 52 Subpart E and Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-19
E2 Plant Barometric Tower

Source Description

A wooden structure operating similar to a cooling tower is used to create a "barometric leg" for the high concentrator (located at the top of the E2 Plant Prill Tower) to concentrate ammonium nitrate from 95% strength to greater than 99%. The high concentrator operates under a vacuum and non-condensables are pulled through the barometric leg to this dedicated barometric tower (SN-19). The barometric tower uses weak ammonium nitrate (~20%) process water as the circulation media. Particulate matter emissions occur as a result of particulate entrained in the water vapor mist that is emitted (sprayed) from the tower. Ammonia emissions also occur due to the water containing ammonium nitrate in solution.

Specific Conditions

119. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-19 is demonstrated by compliance with Specific Conditions 111 and 112. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
19	E2 Plant Barometric Tower	PM_{10} $PM_{2.5}$	0.5 0.5	1.9 1.9

120. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-19 is demonstrated by compliance with Specific Conditions 111 and 112. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
19	E2 Plant Barometric Tower	PM NH_3	0.5 4.1	1.9 17.7

121. The permittee shall not exceed 15% opacity from SN-19 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-19 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-28
E2 Plant HDAN Loading

Source Description

E2 Plant HDAN produced at the E2 Plant is loaded in to rail cars or trucks. Particulate matter emissions occur as the HDAN is being loaded into the rail cars or trucks.

Specific Conditions

122. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-28 is demonstrated by compliance with Specific Conditions 111 and 112. [Reg.19.501 et seq. and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
28	E2 Plant HDAN/LDAN Loading	PM_{10} $PM_{2.5}$	0.1 0.1	0.1 0.1

123. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-28 is demonstrated by compliance with Specific Conditions 111 and 112. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
28	E2 Plant HDAN/LDAN Loading	PM	0.1	0.1

124. The permittee shall not exceed 10% opacity from SN-28 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-28 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-34
E2 Plant Solution Reactor

Source Description

A 35% nitric acid/magnesium oxide solution is created by reacting 56% nitric acid with magnesium oxide through agitation. Approximately 0.5% of the magnesium oxide is contained in the final ammonium nitrate product. Each batch takes two hours to make 2.905 tons of nitric acid/magnesium oxide solution. This solution reactor, which does not contain any pollution control equipment, has the capability of producing twelve batches of E2 solution a day while the E2 Ammonium Nitrate Plant is running at its maximum rate. The solution leaves the reactor, where it is filtered to remove any excess magnesium oxide and other trace particulates, and is stored in a heated tank as 35% solution. The solution is pumped to the inlet of the Low Concentrator.

Specific Conditions

125. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on maximum capacity. The tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 111 and 112. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
34	E2 Plant Solution Reactor	PM_{10} $PM_{2.5}$	1.1 1.1	4.5 4.5

126. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on maximum capacity. The tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 111 and 112. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
34	E2 Plant Solution Reactor	PM	1.1	4.5

127. The permittee shall not exceed 20% opacity from SN-34 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-34 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

KT Ammonium Nitrate Plant

SN-14
Prill Tower with Brinks Scrubber

Source Description

To be sold in final product form, LDAN at the KT Plant is prilled in a prilling tower. A 97% ammonium nitrate solution is mixed with a proprietary additive in a head tank. The prilling operation is accomplished by dispersing the ammonium nitrate solution downward in the tower through a spray nozzle. Long residence times and low air rates contribute to the production of high quality prills, which generate lower particle fines and therefore, lower particulate matter emissions. Air cools and solidifies the ammonium nitrate droplets into solid prills. The air stream and entrained particles are vented to a Brinks scrubber (SN-14).

The uncontrolled emissions from SN-14 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for PM_{10}, (2) the source is equipped with a control device, and (3) the unit has potential <u>pre-control</u> emissions of PM_{10} that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the PM_{10} emission limit at this source.

Specific Conditions

128. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 45.0 tons per hour of ammonium nitrate production. Compliance with the emission limits is demonstrated by compliance with Specific Conditions 131, 132, 133, and 134. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
14	Prill Tower with Brinks Scrubber	PM_{10} $PM_{2.5}$	1.5 1.5	6.5 6.5

129. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 45.0 tons per hour of ammonium nitrate production. Compliance with the emission limits is demonstrated by compliance with Specific Conditions 131, 132, 133, and 134. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
14	Prill Tower with Brinks Scrubber	PM NH_3	1.5 0.7	6.5 3.1

130. The permittee shall not exceed 15% opacity from SN-14 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-14 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

131. The permittee shall not manufacture in excess of 394,200 tons of ammonium nitrate per rolling 12-month total through the KT Ammonium Nitrate Plant. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

132. The permittee shall keep records of the ammonium nitrate production manufactured in the KT Ammonium Nitrate Plant as specified in Specific Condition 131. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

133. The permittee shall have a third party stack test the PM, PM_{10}, and the $PM_{2.5}$ emissions from SN-14 within 180 days after installation of the new Brinks Scrubber, and every 12 months thereafter. The permittee shall not exceed 0.085 mg/acf of particulate matter emissions from SN-14. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. The stack test shall be performed using EPA Reference Method 201A or 5, EPA Reference Method 202, and a method approved in advance by the Department. The permittee shall maintain the approved method with the permit. By using Method 5 for PM_{10}, the facility will assume all collected particulate is PM_{10}. PM_{10} emission rates measured during this testing shall be less than the permitted emission rates specified in Specific Condition 128. This unit shall be operated at 90% or more of maximum capacity when the stack test is performed. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. 90% of maximum capacity is defined as:

a. 90% of the maximum capacity of the prill tower on an ammonium nitrate production basis.
b. The product exit temperature at the prill tower at the time of the test must be less than 180°F.
c. The moisture content of the product exiting the dryer must be less than 0.1%.
d. 90% of the maximum exhaust flow rate (Maximum exhaust flow rate as provided by the facility = 131,452 acfm).[Reg.19.702 and 40 C.F.R. § 52 Subpart E]

134. The KT Plant Brinks Scrubber (SN-14) shall be kept in good working condition at all times. SN-14 shall meet the conditions shown in the following table when the plant is operating. The monitoring parameters for SN-14 shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 12 a.m. to 12 a.m. where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data shall be recorded every 4 hours when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parametric exceedance, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and be made available to Department personnel upon request. The permittee shall submit a summary of data including all information as required in the General Provision 8 if applicable.

SN	Description	Parameter	Units	Operation Limits
14	Prill Tower with Brinks Scrubber	Scrubber Liquid Flow Rate for Each Scrubber	gal/min	225 (minimum)
		Gas Pressure Drop Across Unit for Each Scrubber	in. H_2O	2.5 (minimum)
		pH	-	0.5 - 6.0
		Exhaust Flow Rate	acfm	131,452 (maximum)

[Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and 40 C.F.R. § 64]

SN-18, and SN-21
KT Plant Baghouse, and Dehydrator with Brinks Scrubber

Source Description

Prills exiting the bottom of the KT LDAN Prill Tower (SN-14) are conveyed to a predryer and dryer. The predryer and dryer exhaust air streams are drawn by a common fan concurrent to the direction of the prill and blown to a wet scrubber. The scrubber efficiency is increased by injecting a portion of the scrubbing solution into the fan system. The wet scrubber exhaust, which contains ammonia and particulate matter, is vented directly to the atmosphere through a stack designated as SN-21.

An external coating of high melting point organic material and talc is added to the LDAN to improve the storage and flow of the final product. The talc is stored in an enclosed silo that pneumatically feeds into a bulk talc hopper. Both the silo and the hopper are equipped with a baghouse (SN-18) to minimize particulate matter emissions. The silo baghouse only operates when the talc is being blown into the silo during the unloading of talc when delivered to the plant. The baghouse at the hopper operates when talc is being added to the LDAN. The baghouses do not operate at the same time.

During LDAN production at the KT Plant, ammonium nitrate solution exits a neutralizer and is pumped into a 50 ton solution storage tank. The ammonium nitrate solution (composed of 90% ammonium nitrate and 10% water) is in molten form at this stage in the process. In the storage tank, the ammonium nitrate solution is blended with “recycled” ammonium nitrate solution, which has been concentrated in the auxiliary concentrator. The ammonium nitrate must be concentrated to 97.5% prior to prilling operations. For this to occur, the ammonium nitrate solution is transferred from the 50 ton tank to a dehydrator. The dehydrator air is blown through the solution to remove excess water. The exhaust stream from the dehydrator is directed to the Brinks Scrubber (SN-21) prior to being vented to the atmosphere.

The uncontrolled emissions from SN-18, and SN-21 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix G. Per §64.2(a), the aforementioned sources are regulated under the CAM Rule because it meets the following criteria: (1) the units are subject to emission limitations for PM_{10}, (2) the sources are equipped with a control device, and (3) the units have potential <u>pre-control</u> emissions of PM_{10} that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for these sources. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the PM_{10} emission limits at these sources.

Specific Conditions

135. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 45.0 tons per hour of ammonium nitrate production. Compliance with the emission limits for SN-18 is

demonstrated by compliance with Specific Conditions 131, 132 and 140. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions 131, 132, 138, and 140. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
18	KT Plant Clay Baghouse	PM_{10} $PM_{2.5}$	1.5 1.5	1.9 1.9
21	KT Plant Brinks Scrubber	PM_{10} $PM_{2.5}$	1.5 1.5	6.5 6.5

136. The permittee shall not exceed the emission rates set forth in the following table. The hourly emission limits are based on maximum capacity of 45.0 tons per hour of ammonium nitrate production. Compliance with the emission limits for SN-18 is demonstrated by compliance with Specific Conditions 131, 132, and 140. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions 131, 132, 139 and 140. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
18	KT Plant Clay Baghouse	PM	1.5	1.9
21	KT Plant Brinks Scrubber	PM NH_3	1.5 0.7	6.5 3.1

137. The permittee shall not exceed 5% opacity from SN-18 and 10% opacity from SN-21 as measured by EPA Reference Method 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

138. The permittee shall have a third party stack test the PM, PM_{10}, and the $PM_{2.5}$ emissions from SN-21 within 180 days after completion of the Expansion Project, and once every 12 months thereafter. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. The stack test shall be performed using EPA Reference Method 201A or 5, EPA Reference Method 202, and a method approved in advance by the Department. The permittee shall maintain the approved method with the permit. By using Method 5 for PM_{10}, the facility will assume all collected particulate is PM_{10}. These units shall be operated at 90% or more of maximum capacity when the stack tests are performed.

Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. For SN-21, 90% of maximum capacity is defined as:

a. 90% of the maximum capacity of the prill tower on an ammonium nitrate production basis.
b. The product exit temperature at the prill tower at the time of the test must be less than 180°F.
c. The moisture content of the product exiting the dryer must be less than 0.1%.
d. 90% of the maximum exhaust flow rate (Maximum exhaust flow rate as provided by the facility = 131,452 acfm).

[Reg.19.702 and 40 C.F.R. § 52 Subpart E]

139. The permittee shall have a third party annually stack test the NH_3 emissions from SN-21 using a method approved in advance by the Department to capture ammonia, and the NH_3 emissions shall be less than the permitted emission rates specified in Specific Condition 136. The permittee shall maintain the approved method with the permit. For SN-21, if the stack tests pass three consecutive years of annual testing, the permittee shall perform stack test once every three years. If at any time the facility has test results indicating an exceedance of a permitted emission rate at SN-21, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates compliance with the permitted emission rates after three consecutive passing tests, then the facility may return to performing stack testing once every 36 months. The units shall be operated at 90% or more of maximum capacity when the stack tests are performed. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. The 90% of maximum capacity is defined as:

a. For SN-21, 90% of maximum capacity during NH_3 testing is defined as:

    i. 90% of the maximum capacity of the prill tower on an ammonium nitrate production basis.
    ii. The product exit temperature at the prill tower at the time of the test must be less than 180°F.

iii. The moisture content of the product exiting the dryer must be less than 0.1%.
iv. 90% of the maximum exhaust flow rate (Maximum exhaust flow rate as provided by the facility = 131,452 acfm).

[Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

140. The KT Brinks Scrubber (SN-21) and the KT Plant Clay Baghouse (SN-18) shall be kept in good working condition at all times and shall meet the conditions shown in the following table when the plant is operating. The monitoring parameters for SN-18, and SN-21 shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 12 a.m. to 12 a.m. where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data shall be recorded every 4 hours when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parameter to be outside the range, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and be available to Department personnel upon request. The permittee shall submit a summary of data including all information as required in the General Provision 8 if applicable. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311and 40 C.F.R. § 64]

SN	Description	Parameter	Units	Operation Limits
18	KT Plant Baghouse	Gas Pressure Drop	in. H_2O	0.5 - 8.0
21	KT Brinks Scrubber	Scrubber Liquid Flow Rate	gal/min	225 (minimum)
		Gas Pressure Drop Across Unit	in. H_2O	2.5 (minimum)
		pH	-	0.5 – 6.0
		Exhaust Flow Rate	acfm	131,452 (maximum)

SN-27
KT Plant LDAN Loading

Source Description

LDAN produced at the KT Plant is loaded into rail cars or trucks. Particulate emissions occur as the LDAN is being loaded into the rail cars or trucks.

Specific Conditions

141. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum capacity. Compliance with the emission limits is demonstrated by compliance with Specific Conditions 131 and 132. [Reg.19.501 et seq. and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	Lb/hr	tpy
27	KT Plant LDAN Loading	PM_{10} $PM_{2.5}$	0.1 0.1	0.1 0.1

142. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum capacity. Compliance with the emission limits is demonstrated by compliance with Specific Conditions 131 and 132. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
27	KT Plant LDAN Loading	PM	0.1	0.1

143. The permittee shall not exceed 10% opacity from SN-27 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-27 is demonstrated by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-63
KT Plant Chemical Steam Scrubber

Source Description

The KT Plant Chemical Steam Scrubber (SN-63) will be installed with the Expansion Projection modification. SN-63 will control particulate matter and ammonia emissions from a new neutralizer being added, as well as emissions from the E2 Prill and AN solution operations. This scrubber will be designed equivalently with SN-41, and SN-41 emission factors are used here for permitting purposes.

Specific Conditions

144. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on maximum capacity of 62.5 tons per hour. The permittee shall demonstrate compliance with this condition by Specific Conditions 147 through 152. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	Tpy
63	KT Plant Chemical Steam Scrubber	PM_{10} $PM_{2.5}$	14.0 (daily 24-hr average)	14.8
		PM_{10} $PM_{2.5}$	3.4 (30-day rolling average)	

145. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on maximum capacity of 62.5 tons per hour. The permittee shall demonstrate compliance with this condition by Specific Conditions 147 through 152. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
63	KT Plant Chemical Steam Scrubber	PM	14.0 (daily 24-hr average)	14.8
		PM	3.4 (30-day rolling average)	
		NH_3	10.2	44.7

146. The permittee shall not exceed 5% opacity from SN-63 as measured by EPA Reference Method 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

147. The permittee shall operate, maintain, and submit reports for the continuous monitoring device for SN-63, as required by Specific Condition 152, in accordance with all applicable requirements of ADEQ CEMS Conditions, located in Appendix H of this permit. The applicable requirements of ADEQ CEMS Conditions include, but are not limited to, the following:

a. The stack gas sampling system at SN-63 shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
b. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
c. The permittee shall maintain records of the occurrence and duration of startup/shutdown, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of SN-63 which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
d. The permittee shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter.
e. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.
f. The permittee must maintain on site a file of the continuous monitored data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.
g. The permittee shall develop and implement a Quality Assurance/Quality Control (QA/QC) plan within 90 days of permit issuance, and shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability. The permittee must keep a copy of the QA/QC Plan at the source's location and retain all previous versions of the QA/QC Plan for five years.
h. The submitted QA/QC plan shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

i. A back-up monitor may be placed on SN-63 to minimize monitor downtime. This back-up sampling and monitoring system is subject to the same QA/QC procedure and practices as the primary sampling and monitoring system. When the primary sampling and monitoring system goes down, the back-up sampling and monitoring system may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up sampling and monitoring system is placed in service, these records shall include at a minimum the reason the primary sampling and monitoring system is out of service, the date and time the primary sampling and monitoring system was out of service and the date and time the primary sampling and monitoring system was placed back in service.

[Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

148. The 30-day rolling average particulate emissions (PM, $PM_{10,}$ and $PM_{2.5}$) from SN-63 shall not exceed 0.054 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the particulate emission testing requirement of Specific Condition 152. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

149. The daily 24-hour average particulate emissions (PM, $PM_{10,}$ and $PM_{2.5}$) from SN-63 shall not exceed 0.223 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the particulate emission testing requirement of Specific Condition 152. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

150. The permittee shall not manufacture in excess of 547,500 tons of ammonium nitrate through the KT Plant Chemical Steam Scrubber during any consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

151. The permittee shall keep records of the ammonium nitrate prill production in the E2 Ammonium Nitrate Plant as specified in Specific Condition 150. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15^{th} of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

152. The permittee shall continue to conduct continuous sampling of the stack gas at SN-63 to produce two 12-hr composite samples each day to demonstrate compliance with the limits in Specific Conditions 144, 145, and 149. The permittee shall maintain a 30-day

rolling average of the PM_{10} emissions at SN-63 to demonstrate compliance with the limits in Specific Conditions 144 and 148.

Each 12-hour composite sample shall be analyzed using Method EDCC-330.2 (to determine ammonia concentration) and EPA Method 300.0 “Determination of Inorganic Anions by Ion Chromatography” (to determine nitrate concentration). EDCC’s analysis procedure for ammonia shall be consistent with Method 4500-NH_3 from “Standard Methods for the Examination of Water and Wastewater, 19th Edition”. The data from the analyses shall be entered into an Excel spreadsheet on a daily basis to calculate the mass concentrations of ammonia (as NH_3) and condensable particulate (as NH_4NO_3) in the vapor stream leaving SN-63. Total vapor flow from process equipment controlled by SN-63 shall be assumed to be at maximum rates for initial calculations/compliance demonstration purposes. Should spreadsheet results indicate an exceedance of the permitted rate for ammonia/particulate matter, EDCC shall calculate the actual total vapor flow rate by mass balance around the operations that feed vapors to SN-63 to verify compliance, based on the following:

- The vapor stream from the Auxiliary Concentrator will be considered to be at its maximum rate if the unit is in operation.
- The vapor stream from the Low Concentrator will be calculated based on the measured prill production rate and solution concentrations.
- Vapor flow from the neutralizers will be calculated based on the acid and ammonia feed rates and the acid and product solution concentrations.

The permittee shall maintain an emission inventory spreadsheet for particulate matter and ammonia emissions from SN-63. The spreadsheet shall contain each 12-hour composite sample result and shall be used to maintain a daily, 24-hour average result to demonstrate compliance with the lb/hr emission limits and a 12-month rolling total to demonstrate compliance with the annual emission limits. A valid 12-hour period is defined as beginning at 8:00 a.m. and at 8:00 p.m. This information shall be submitted in accordance with General Provision 7.

[Reg.19.702 and 40 C.F.R. § 52 Subpart E and Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and 40 C.F.R. § 64]

SN-67
E2/KT Products Blend

Source Description

This source accounts for unloading of E2 product at the KT plant to make an E2/KT Product Blend.

Specific Conditions

153. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be shown by compliance with Specific Conditions 155 and 157. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
67	E2/KT Products Blend	PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1

154. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be shown by compliance with Specific Conditions 155 and 157. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
67	E2/KT Products Blend	PM	0.5	0.4

155. The permittee shall not unload more than 36,500 tons of high density ammonium nitrate prills at SN-67 in any consecutive 12 month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

156. The permittee shall not exceed 20% opacity from SN-67as measured by EPA Reference Method 9.   [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

157. The permittee shall maintain monthly records of the amount of high density ammonium nitrate prills received SN-67. These records shall include the amount of prills received each month and the consecutive 12 month total received. These records shall be kept in accordance with General Provision 7, kept on site, and made available to Department personnel upon request. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

Ammonia Plant

SN-49
Ammonia Plant Primary Reformer

Source Description

A mixture of natural gas and steam are combined in the primary reformer to convert methane to hydrogen and carbon dioxide. The fuel burned to provide heat for this conversion produces combustion products such as carbon monoxide, mixed oxides of nitrogen, sulfur dioxide, particulate matter and hydrocarbons. These combustion products are exhausted from the primary reformer as SN-49. EDCC will install a Selective Catalytic Reduction (SCR) Unit to reduce NO_x emissions from this source. NO_x control efficiency is estimated at 95% per vendor specifications.

Specific Conditions

158. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163, 164, and 165. The permittee shall demonstrate compliance with the particulate emission rates by complying with Specific Condition 166. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
49	Ammonia Plant Primary Reformer (824 MMBtu/hr natural gas-fired reformer with SCR)	PM_{10}	3.5	15.2
		$PM_{2.5}$	3.5	15.2
		Lead	0.01	0.01

159. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 161, 163, 164, and 165. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
49	Ammonia Plant Primary Reformer (824 MMBtu/hr natural gas-fired reformer with SCR)	SO_2	0.7	0.5
		VOC	1.2	5.1
		CO	16.0	70.1
		NO_x	10.3	44.8
		CO_2e	96,800	423,800

160. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163,

164, and 165, and Table 3 to 40 C.F.R. § 63, Subpart DDDDD. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
49	Ammonia Plant Primary Reformer (824 MMBtu/hr natural gas-fired reformer with SCR)	PM NH_3 Arsenic Cadmium Formaldehyde Hexane Mercury	3.5 14.3 0.01 0.01 0.07 1.46 0.01	15.2 62.6 0.01 0.01 0.27 6.37 0.01

161. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with the SO_2 emission limits by complying with Specific Condition 167. The permittee shall demonstrate compliance with the VOC emission limits by complying with Specific Condition 167. The permittee shall demonstrate compliance with the CO emission limits by complying with Specific Condition 168. The permittee shall demonstrate compliance with the NO_x emission limits by complying with Specific Condition 171. The permittee shall demonstrate compliance with the CH_4 and CO_2 emission limits by complying with Specific Condition 169. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-49	Ammonia Plant Primary Reformer (824 MMBtu/hr natural gas-fired reformer with SCR)	Opacity	Combustion of natural gas and process off gas (purge gas), and good and efficient combustion practices	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.0014 lb/MMBtu (3-hr average)
		CO		0.0194 lb/MMBtu (3-hr average)
		NO_x	SCR	0.0124 lb/MMBtu (30-day average)
		GHG	Good operating practices	CO_2 117 lb/MMBtu (3-hr average) CH_4 0.0022 lb/MMBtu (3-hr average) N_2O 0.00022 lb/MMBtu (3-hr average) CO_2e 423,714.2 tons per rolling 12 months

162. The permittee shall not exceed 0% opacity from the Ammonia Plant Primary Reformer (SN-49) as measured by EPA Reference Method 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Plantwide Condition 9. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

163. The permittee shall not combust in excess 7,076.7 million standard cubic feet of natural gas during any consecutive 12-month period at SN-49. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

164. The permittee shall not manufacture in excess of 565,750 tons per rolling 12-month total of ammonia through the Ammonia Plant Primary Reformer (SN-49). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

165. The permittee shall keep records of the natural gas usage and the ammonia production at the Ammonia Plant Primary Reformer (SN-49) as specified in Specific Conditions 163 and 164. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available

to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

166. The permittee shall have a third party annually stack test the PM, PM_{10}, and $PM_{2.5}$ emissions and opacity, from SN-49 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 5 and 202 for PM, EPA Reference Method 201A and 202 for PM_{10} and $PM_{2.5}$, and EPA Reference Method 9 for opacity. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

167. The permittee shall have a third party annually stack test the SO_2 and VOC emissions from SN-49 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack tests shall be performed using EPA Reference Method 6C for SO_2 and EPA Reference Method 25A for VOC. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

168. The permittee shall have a third party annually stack test the CO emissions from SN-49 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 10 for CO. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

169. The permittee shall have a third party stack annually test the Methane (CH_4) and Carbon Dioxide (CO_2) emissions from SN-49 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 18 for Methane and EPA Reference Method 3A for CO_2. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and Reg.19.702 and 40 C.F.R. § 52 Subpart E]

170. The permittee shall have a third party stack annually test the N_2O emissions from SN-49 within 60 days after achieving the maximum production rate, but no later than 180 days

after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 320, ASTM D6348-03, or an equivalent method approved by the Department. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

171. The permittee shall install, calibrate, maintain, and operate a CEMS to monitor NO_x emissions from the Ammonia Plant Primary Reformer (SN-49). The NO_x monitor shall be operated in accordance with the ADEQ CEMS conditions and shall be operated at all times including during startup and shutdown. Compliance will be demonstrated on a rolling 30-day average. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and 40 C.F.R. § 64]

172. The permittee shall comply with the following table from 40 C.F.R. § 63 Subpart DDDDD: [Reg.19.304 and 40 C.F.R. § 63 Subpart DDDDD]

Table 3 to Subpart DDDDD of 40 C.F.R. § 63 – Work Practice Standards

If your unit is . . .	You must meet the following . . .
4. An existing boiler or process heater located at a major source facility, not including limited use units	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 operates under an energy management program compatible with ISO 50001 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:
	a. A visual inspection of the boiler or process heater system.
	b. An evaluation of operating characteristics of the boiler or process

If your unit is . . .	You must meet the following . . .
	heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
	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.
	d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
	e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.
	f. A list of cost-effective energy conservation measures that are within the facility's control.
	g. A list of the energy savings potential of the energy conservation measures identified.
	h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

SN-50
Ammonia Plant Condensate Steam Stripper

Source Description

Carbon monoxide is formed as a byproduct in the catalytic steam reforming process. After cooling, the carbon monoxide and water contained in the synthesis gas are converted to carbon dioxide and hydrogen in the High Temperature and Low Temperature Shift Converters. Unreacted steam is condensed and separated from the synthesis gas in a knockout drum, and the condensate is flashed in the Condensate Steam Stripper (SN-50) to remove volatile gases. The residual condensate may be returned to the boiler or reused in another portion of the process.

Specific Conditions

173. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163, 164, 165 and 176. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E and Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
50	Ammonia Plant Condensate Steam Stripper	VOC	0.1[a]	0.5
		CO	0.2	0.9
		CO_2e	500	2,000

a. 24-hr average

174. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163, 164, and 165. The permittee shall demonstrate compliance with the Methanol emission limits by complying with Specific Condition 178. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
50	Ammonia Plant Condensate Steam Stripper	NH_3	0.6	2.5
		Methanol	0.01	0.01

175. The permittee shall not exceed the emission rates set forth in the following table.   The permittee shall demonstrate compliance with the VOC emission limits by complying with Specific Condition 176. The permittee shall demonstrate compliance with the CO_2 emission limits by complying with Specific Condition 177. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-50	Ammonia Plant Condensate Steam Stripper	CO	Good and efficient operating practices	0.003 lb/ton of NH_3 produced (3-hr Average)
		VOC		0.00155 lb/ton of NH_3 produced (24-hr average)
		GHG		CO_2 6.8 lb/ton of NH_3 produced (3-hr average) CO_2 440 lb/hr (3-hr average) CH_4 0.00063 lb/ton of NH_3 produced (24-hr average) CH_4 0.041 lb/hr (24-hr average) CO_2e 1929 tpy

176. The permittee shall have a third party stack test the VOC emissions from SN-50 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. The stack test shall be performed using EPA Reference Method 25A or another method approved in advance by the Department for VOC. The test shall be conducted over a 24 hour period. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

177. The permittee shall have a third party stack test the CO_2 emissions from SN-50 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. The stack test shall be performed using EPA Reference Method 3A for CO_2. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

178. The permittee shall have a third party stack test the Methanol emissions from SN-50 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 18 or 25A for Methanol, or another method approved in advance by the Department. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-51
Ammonia Plant CO_2 Regenerator

Source Description

After the carbon monoxide shift, the carbon dioxide is removed from the process gas by sending the synthesis gas through an absorption tower where a methyl diethanolamine solution (MDEA) is used to strip the carbon dioxide out of the gas. Carbon dioxide is removed from the MDEA in a stripper column (CO_2 Regenerator), where it is vented to the atmosphere (SN-51).

Specific Conditions

179. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163, 164, 165 and 181. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
51	Ammonia Plant CO_2 Regenerator	VOC	6.6	28.6
		CO	1.3	5.7
		CO_2e	162,100	709,700

180. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific 163, 164, and 165. The permittee shall demonstrate compliance with the Ammonia emission limits by complying with Specific Condition 184. The permittee shall demonstrate compliance with the Methanol emission limits by complying with Specific Condition 185. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
51	Ammonia Plant CO_2 Regenerator	NH_3	2.7	11.6
		Methanol	6.5	28.2

181. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with the VOC emission limits by complying with Specific Condition 182. The permittee shall demonstrate compliance with the CO emission limits by complying with Specific Condition 183. The permittee shall demonstrate compliance with the CO_2 emission limits by complying with Specific Condition 186. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-51	Ammonia Plant CO_2 Regenerator	VOC	Proper Catalyst Selection and Scrubber at 86% control	0.101 lb/ton of NH_3 produced (3-hr average)
		CO	Proper Catalyst Selection and Good Operation Practices	0.02 lb/ton of NH_3 produced (3-hr average)
		GHG	Proper Catalyst Selection and Good Operation Practices	CO_2 2,510 lb/ton of NH_3 produced (3-hr average) CO_2 162,000lb/hr (3-hr average) CH_4 0.0246 lb/ton of NH_3 produced (3-hr average) CH_4 1.59000lb/hr (3-hr average) CO_2e 709,700 tpy

182. The permittee shall have a third party stack test the VOC emissions from SN-51 in accordance with Plantwide Condition 3. During this test the permittee shall either test perform inlet outlet testing of the scrubber on SN-51 or perform analysis of the scrubbing liquid for VOC concentration in order to determine if the control efficiency of the scrubber achieves the 86% selected as BACT. The stack test shall be performed using EPA Reference Method 25A for VOC. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

183. The permittee shall have a third party stack test the CO emissions from SN-51 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. The stack test shall be performed using EPA Reference Method 10 for CO. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted

capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

184. The permittee shall have a third party stack test the Ammonia (NH_3) emissions from SN-51 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. The stack test shall be performed using EPA Reference Method 320 for Ammonia, or another method approved in advance by the Department. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

185. The permittee shall have a third party stack test the Methanol emissions from SN-51 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 18 or 25A for Methanol, or another method approved in advance by the Department. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

186. The permittee shall have a third party stack test the CO_2 emissions from SN-51 within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, and once every 12 months thereafter. The stack test shall be performed using EPA Reference Method 3A. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may

perform stack testing once every 60 months. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.703, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

187. The Ammonia Plant CO_2 Regenerator shall be kept in good working condition at all times. The following monitoring parameters for SN-51 shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 12 a.m. to 12 a.m. where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data recorded once per 12-hour shift when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parameter to be outside the range, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and made available to Department personnel upon request [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and 40 C.F.R. § 64]

SN	Description	Parameter	Units	Operation Limits
51	Ammonia Plant CO_2 Regenerator	Scrubber Liquid Flow Rate	gal/min	30 (minimum)
		Gas Pressure Drop Across Unit	in. H_2O	2(minimum)

SN-52
Ammonia Plant Cooling Tower

Source Description

The Ammonia Plant Cooling Tower (SN-52) provides non-contact cooling water to the Ammonia Plant process equipment. Particulate matter is emitted during operation of the cooling tower.

Specific Conditions

188. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 191. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
52	Ammonia Plant Cooling Tower	PM_{10}	0.5	2.1
		$PM_{2.5}$	0.5	2.1

189. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 191. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
52	Ammonia Plant Cooling Tower	PM	0.5	2.1

190. The permittee shall not exceed 5% opacity from the Ammonia Plant Cooling Tower (SN-52) as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-52 is demonstrated by compliance with Specific Condition 191. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

191. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-52 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-52's requirements in Specific Conditions 188, 189, and 190 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN-53, SN-56, and SN-57
Ammonia Plant Ammonia Vent Flare, Ammonia Plant Process SSM Flare, Ammonia Storage Flare

Source Description

EDCC will pipe ammonia-containing vent streams to a separate flare, SN-53. Two synthesis gas process streams will discharge to this flare in the event of a synthesis loop depressuring for shut-down or maintenance. This gas contains NH_3, CH_4, and inerts. In addition, there will be an ammonia vent tied to this flare that will only vent in the case of emergency. This stream will contain only NH_3. When the unit is not flaring process gas, it burns natural gas as purge to maintain a positive pressure in the flare tip while not in use. Maximum hourly emissions consist of emissions from the pilot plus either the process gas flaring, emergency ammonia flaring or purge combustion, depending upon the pollutant. Annual emissions include the combined contributions of combusting natural gas for the pilot and purge as well as the process gas combustion. The annual average is conservative in that it assumes continuous annual purge gas combustion as well as maximum hours of flare operation. This is done to insure maximum potential values of each pollutant. When actually flaring process gas or emergency ammonia, the flare does not burn the purge gas.

EDCC has a natural gas fired ammonia plant process flare (SN-56) to burn process gas exhausted during start-ups, shutdowns, or as otherwise needed for maintenance purposes. During startup, each part of the ammonia production process is brought on line in succession. As each section is prepared for operation, the equipment may vent to the atmosphere since the succeeding equipment is not ready to receive feed. These vents release for short periods during startups and will be controlled with the SN-56 flare. This gas contains CO, CO_2, and CH_4 in addition to inert gases. All streams containing ammonia are piped separately and controlled via SN-53. When the unit is not flaring process gas, it burns natural gas as purge to maintain a positive pressure in the flare tip while not in use. Maximum hourly emissions consist of emissions from the pilot plus either the flaring or purge combustion, depending upon the pollutant. Annual emissions include the combined contributions of combusting natural gas for the pilot and purge as well as the process gas combustion. The annual average is conservative in that it assumes continuous annual purge gas combustion as well as maximum hours of flare operation. This is done to insure maximum potential values of each pollutant. When actually flaring process gas, the flare does not burn the purge gas.

EDCC also has a natural gas fired flare (SN-57) to reduce ammonia emissions from ammonia storage during depressurization of the refrigeration system, during SSM events, or as otherwise needed.

Specific Conditions

192. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on a maximum flow rate of 32,000 pounds per hour to SN-53, 50,000 pounds per hour to SN-56 and 2,000 pounds per hour to SN-57. The

permittee shall demonstrate compliance with this condition by Specific Conditions 199 through 208. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
53	Ammonia Plant Ammonia Vent Flare (0.26 MMBtu/hr total from 4 pilots)	PM_{10} $PM_{2.5}$ Lead	0.1 0.1 0.01	0.1 0.1 0.01
56	Ammonia Plant Process SSM Flare	PM_{10} $PM_{2.5}$ Lead	0.1 0.1 0.01	0.1 0.1 0.01
57	Ammonia Storage Flare	PM_{10} $PM_{2.5}$ Lead	0.1 0.1 0.01	0.1 0.1 0.01

193. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on a maximum flow rate of 32,000 pounds per hour to SN-53, 50,000 pounds per hour to SN-56 and 2,000 pounds per hour to SN-57. The permittee shall demonstrate compliance with this condition by Specific Conditions 199 through 208. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
53	Ammonia Plant Ammonia Vent Flare (0.26 MMBtu/hr total from 4 pilots)	SO_2 VOC CO NO_x CO_2e	0.1 0.1 0.1 792.1 7,500	0.1 0.1 0.4 6.9 800
56	Ammonia Plant Process SSM Flare	SO_2 VOC CO NO_x CO_2e	0.1 0.1 156.1 0.1 18,800	0.1 0.1 39.4 0.5 5,200
57	Ammonia Storage Flare	SO_2 VOC CO NO_x CO_2e	0.1 0.1 0.1 10.1 21	0.1 0.1 0.1 43.9 90

194. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour limits are based on a maximum flow rate of 32,000 pounds per hour to sn-53, 50,000 pounds per hour to SN-56 and 2,000 pounds per hour to SN-57. The permittee shall demonstrate compliance with this condition by Specific Conditions Specific Conditions 199 through 208. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
53	Ammonia Plant Ammonia Vent Flare (0.26 MMBtu/hr total from 4 pilots)	PM NH_3 Arsenic Cadmium Formaldehyde Hexane Mercury	0.1 1,584.1 0.01 0.01 0.01 0.01 0.01	0.1 9.8 0.01 0.01 0.01 0.01 0.01
56	Ammonia Plant Process SSM Flare	PM Arsenic Cadmium Formaldehyde Hexane Mercury	0.1 0.01 0.01 0.01 0.01 0.01	0.1 0.01 0.01 0.01 0.01 0.01
57	Ammonia Storage Flare	PM NH_3 Arsenic Cadmium Formaldehyde Hexane Mercury	0.1 40.0 0.01 0.01 0.01 0.01 0.01	0.1 175.2 0.01 0.01 0.01 0.01 0.01

195. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions Specific Conditions 199 through 208. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-53	Ammonia Plant Ammonia Vent Flare (0.26 MMBtu/hr total from 4 pilots)	Opacity	Combustion of Natural gas and Good Combustion Practice	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.0054 lb/MMBtu (3-hr average)
		CO		0.082 lb/MMBtu (3-hr average)
		NO_x		0.098 lb/MMBtu (3-hr average) from pilot of NH_3 to NO_x
		GHG		CO_2 117 lb/MMBtu (3-hr average) CH_4 0.0022 lb/MMBtu (3-hr average) N_2O 0.00022 lb/MMBtu (3-hr average) CO_2e 719.9 tons per rolling 12 months

196. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions Specific Conditions 199 through 208. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-56	Ammonia Plant Process SSM Flare	Opacity	Combustion of Natural gas and Good Combustion Practice	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.0054 lb/MMBtu (3-hr average)
		CO		0.082 lb/MMBtu (3-hr average) from pilot
		NO_x		0.098 lb/MMBtu (3-hr average)
		GHG		CO_2 117 lb/MMBtu (3-hr average) CH_4 0.0022 lb/MMBtu (3-hr average) N_2O 0.00022 lb/MMBtu (3-hr average) CO_2e 5,179.8 tons per rolling 12 months

197. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 199 through 208. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-57	Ammonia Storage Flare	Opacity	Combustion of natural gas, and good and efficient operating practices	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.0054 lb/MMBtu (3-hr average)
		CO		0.082 lb/MMBtu (3-hr average)
		NO_x		0.098 lb/MMBtu (3-hr average) from pilot
		GHG		CO_2 117 lb/MMBtu (3-hr average) CH_4 0.0022 lb/MMBtu (3-hr average) N_2O 0.00022 lb/MMBtu (3-hr average) CO_2e 89.99 tons per rolling 12 months

198. The permittee shall not have visible emissions from SN-53, SN-56, and SN-57 as measured by EPA Reference Method 22. Compliance with the Method 22 for SN-56 is demonstrated by compliance with Specific Conditions 199 through 206. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

199. The permittee shall burn only pipeline quality natural gas as fuel for Ammonia Plant Ammonia Vent Flare (SN-53), the Ammonia Plant Process SSM Flare (SN-56), and the Ammonia Storage Flare (SN-57). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

200. The permittee shall not combust in excess 9.0 million standard cubic feet of natural gas during any consecutive 12-month period at SN-53. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

201. The permittee shall not combust in excess 8.2 million standard cubic feet of natural gas during any consecutive 12-month period at SN-56. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

202. The permittee shall not combust in excess 1.5 million standard cubic feet of natural gas during any consecutive 12-month period at SN-57. [Reg.19.705, Ark. Code Ann. § 8-4-

203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

203. The permittee shall maintain monthly records of the amount of natural gas combusted each month to demonstrate compliance with Specific Conditions 200, 201, and 202. Records shall be updated by the 15th day of the month for which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A 12-month rolling average and each individual month's data shall be submitted in accordance with General Provision 7. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

204. The permittee shall not operate the Ammonia Plant Ammonia Vent Flare (SN-53) in excess of three (3) hours during any consecutive 24-hour period, unless operation is during a maintenance outage of the hydrogen recovery unit (HRU), in which case, the time restriction does not apply. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

205. The permittee shall maintain daily records of the hours of operation at SN-53 to demonstrate compliance with Specific Condition 204. These records shall contain the hours of operations as specified in Specific Condition 204, and shall contain each month's total and a rolling total for the previous 12 months. Records shall be updated by the 15th day of the month for which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A 12-month rolling average and each individual month's data shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

206. The permittee shall conduct weekly observations of the opacity at SN-53, SN-56, and SN-57 and keep a record of these observations. Each of the flares (SN-53, SN-56, and SN-57) shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. EPA Reference Methods 22 shall be used to determine compliance with the visible emission provisions of the flare. If the permittee detects visible emissions in excess of their permitted limit, the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of the visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

207. The permittee must operate the Ammonia Plant Ammonia Vent Flare (SN-53), the Ammonia Plant Process SSM Flare (SN-56), and the Ammonia Storage Flare (SN-57)

pilot flames within the design limitations and manufacturer's specifications. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

208. The Ammonia Plant Ammonia Vent Flare (SN-53), the Ammonia Plant Process SSM Flare (SN-56), and the Ammonia Storage Flare (SN-57) must have a flame present at all times of operation. The presence of a flare pilot light shall be monitored continuously using a thermocouple, an ultraviolet sensor or any other equivalent device to detect the presence of a flame. [Reg.19.303, Reg.19.304, §§ 60.18(b) through (f), and Ark. Code Ann. §§ 8-4-304 and 8-4-311]

209. The permittee shall install and operate alarm system at the Ammonia Plant Ammonia Vent Flare (SN-53), the Ammonia Plant Process SSM Flare (SN-56), and the Ammonia Storage Flare (SN-57) to notify the operator of the presence of a pilot flame or other possible flare malfunction. The permittee shall perform monthly visual confirmation of the pilot lights, semi-annually remove the strainer and check for debris, and annual test fire to ensure pilot light. The permittee shall maintain logs of all flare inspection and maintenance activities. These logs shall be kept on site, in accordance with General Provision 7, and made available to Department personnel upon request. [Reg.19.702 and 40 C.F.R. § 52 Subpart E and 40 C.F.R. § 64]

SN-54
Ammonia Plant Start-up Heater

Source Description

This 38 MMBtu/hr start-up heater is required to bring the ammonia plant up to production. The heater is used to start-up the ammonia synthesis unit operation. This natural gas fired heater is used infrequently and only during plant start-up.

Specific Conditions

210. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 215, 216, and 217. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
54	Ammonia Plant Start-up Heater (38 MMBtu/hr natural gas-fired)	PM_{10}	0.3	0.1
		$PM_{2.5}$	0.3	0.1
		Lead	0.01	0.01

211. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 215, 216, and 217. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
54	Ammonia Plant Start-up Heater (38 MMBtu/hr natural gas-fired)	SO_2	0.1	0.1
		VOC	0.2	0.1
		CO	0.8	0.2
		NO_x	2.3	0.6
		CO_2e	4,500	1,200

212. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 215, 216, and 217. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
54	Ammonia Plant Start-up Heater (38 MMBtu/hr natural gas-fired)	PM Arsenic Cadmium Formaldehyde Hexane Mercury	0.3 0.01 0.01 0.01 0.08 0.01	0.1 0.01 0.01 0.01 0.02 0.01

213. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 214, Conditions 215, 216, and 217. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
54	Ammonia Plant Start-up Heater (38 MMBtu/hr natural gas-fired)	Opacity	Combustion of Natural gas and Good Combustion Practice	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.002 lb/MMBtu (3-hr average)
		CO		0.01 lb/MMBtu (3-hr average)
		NO_x	Low NO_x burners Combustion of clean fuel Good Combustion Practices	0.06 lb/MMBtu (3-hr average)
		GHG	Good operating practices	CO_2 117 lb/MMBtu CH_4 0.0022 lb/MMBtu N_2O 0.00022 lb/MMBtu CO_2e 1,115.31 tons per rolling 12 months

214. The permittee shall not exceed 0% opacity from the Ammonia Plant Start-up Heater (SN-54) as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-54 shall be demonstrated by compliance with Specific Condition 215. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

215. The permittee shall burn only pipeline quality natural gas in SN-54. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

216. The permittee shall not combust in excess 18.63 million standard cubic feet of natural gas during any consecutive 12-month period at SN-54. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

217. The permittee shall maintain monthly records of the amount of natural gas combusted each month to demonstrate compliance with Specific Condition 216. Records shall be updated by the 15th day of the month for which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A twelve-month rolling average and each individual month's data shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN-55
Ammonia Plant Fugitives

Source Description

Fugitive leaks of process gas/liquid containing ammonia occur during normal operation from process equipment components (i.e., valves, flanges, pump seals, etc.).

Specific Conditions

218. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 163, and 164. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	Tpy
55	Ammonia Plant Fugitives	NH_3	15.5	67.6

Mixed Acid Plant

SN-44
Mixed Acid Plant Scrubber

Source Description

EDCC manufactures mixed acid by mixing ≤ 30% oleum (concentrated sulfuric acid) and/or 98% sulfuric acid with 98% nitric acid. The ≤ 30% oleum is purchased from a vendor and delivered to EDCC by railcar or tanker truck, while the 98% sulfuric acid will come from EDCC's Sulfuric Acid Plant, and the 98% nitric acid will come from EDCC's Nitric Acid Plant. The manufactured mixed acid is stored in the product storage tank or the mixing tank until it is loaded into a railcar or tanker truck. Air emissions from the tanks, the unloading of oleum, and the loading/unloading of the mixed acid into tank cars and/or trucks will be routed to the scrubber (SN-44) prior to being released to the atmosphere.

This scrubber is not subject to CAM because the scrubber is not used to control the NO_x emissions from this source.

Specific Conditions

219. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on maximum capacity of 25 tons per hour for rail car offloading and 25 tons per hour of mixed acid production. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions 222 through 227. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
44	Mixed Acid Plant Scrubber	NO_x	0.4	1.7

220. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on maximum capacity of 25 tons per hour for rail car offloading and 25 tons per hour of mixed acid production. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 222 through 227. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
44	Mixed Acid Plant Scrubber	SO_3	0.04	0.18
		H_2SO_4	0.04	0.18
		HNO_3	0.19	0.83

221. The permittee shall not exceed 20% opacity from SN-44 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-44 is demonstrated by compliance with Plantwide Condition 9. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

222. The permittee shall offload no more than 394,200 tons of oleum into the Oleum Storage Tank per consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

223. The permittee shall not use Oleum in excess of 30% in strength (SO_3 concentration). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

224. The permittee shall not produce more than 219,000 tons of mixed acid per consecutive 12-month period. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

225. The permittee shall maintain monthly records of the amount of Oleum offloaded into the Oleum Storage Tank, the percent strength of the oleum, and the amount of mixed acid produced as specified in Specific Conditions 222 and 224. These records shall contain the oleum strength specified in Specific Condition 223 and shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

226. The permittee shall have a third party stack test SN-44 once every five years for HNO_3, H_2SO_4, SO_3, and NO_x emissions using an approved method, and the emissions shall be less than the hourly limit specified in Specific Conditions 220 and 219. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the permitted emission rates. During stack testing, the mixed acid plant shall be operating at a rate greater than or equal to 90% capacity. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. The permittee shall measure the operation rate during the test and if testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate until a subsequent test can be successfully conducted at 90% or above. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

227. The Mixed Acid Scrubber shall be kept in good working condition at all times. The following monitoring parameters for SN-44 shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 12 a.m. to 12 a.m.

where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data recorded once per 12-hour shift when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parameter to be outside the range, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and made available to Department personnel upon request. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Parameter	Units	Operation Limits
44	Mixed Acid Plant Scrubber	Scrubber Liquid Flow Rate	gal/min	5.0 (minimum)
		Gas Pressure Drop Across Unit	in. H_2O	10 - 35
		Scrubber liquid pH	-	0.5 – 7.5

Natural Gas Fired Boiler

SN-61
Natural Gas Fired Start-up Boiler

Source Description

A 240 MMBtu/hr natural gas fired Startup Boiler (SN-61) is used to supply steam throughout the multi-plant facility startup operations and for process heating purposes when excess steam generated from the operating plants is not available. Emissions from the boiler occur due to the combustion of natural gas. This boiler is being permitted as a high turndown rate (10:1) boiler. The turndown rate represents the maximum firing rate of the burners compared to the lowest controllable fire rate at which the boiler can operate. This turndown rate is necessary to EDCC's operations due to the high variability in steam demand at the facility.

Specific Conditions

228. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on engineering estimates and the maximum capacity of the boiler. The tons per year emission rate limits are based on the permitted annual natural gas usage of the boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions 233, 234, 235, and 236. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
61	Start-up Boiler (240 MMBtu/hr)	PM_{10}	2.4	3.2
		$PM_{2.5}$	2.0	2.6
		Lead	0.01	0.01

229. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on engineering estimates and the maximum capacity of the boiler. The tons per year emission rate limits are based on the permitted annual natural gas usage of the boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition 233, 234, and 235. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
61	Start-up Boiler (240 MMBtu/hr)	PM	2.4	3.2
		Arsenic	0.01	0.01
		Cadmium	0.01	0.01
		Formaldehyde	0.02	0.03
		Hexane	0.44	0.56
		Mercury	0.01	0.01

230. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on engineering estimates and the maximum capacity of the boiler. The tons per year emission rate limits are based on the permitted annual natural gas usage of the boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions 231, 233, 234, 235, and 236. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
61	Start-up Boiler (240 MMBtu/hr)	SO_2	0.2	0.3
		VOC	1.0	1.3
		CO	8.9	11.7
		NO_x	4.4	5.7
		CO_2e	28,200	37,100

231. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 232, 233, 234, 235, and 236. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

BACT Analysis Summary				
Source	Description	Pollutant	Control Technology	BACT Limit
SN-61	Start-up Boiler (240 MMBtu/hr)	Opacity	Combustion of natural gas, and good and efficient operating practices	0%
		SO_2		0.00074 lb/MMBtu (3-hr average)
		VOC		0.004 lb/MMBtu (3-hr average)
		CO		0.037 lb/MMBtu (3-hr average)
		NO_X	Low NOx burners and flue gas recirculation at the boiler Combustion of clean fuel Good Combustion Practices	0.018 lb/MMBtu (3-hr average)
		GHG	Good operating practices	CO_2 117 lb/MMBtu CH_4 0.0022 lb/MMBtu (3-hr average) N_2O 0.00022 lb/MMBtu (3-hr average) CO_2e 37,023.69 tons per rolling 12 months

232. The permittee shall not exceed 0% opacity from SN-61 as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-61 is demonstrated by compliance with Specific Condition 233. [Reg.19.503 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

233. The permittee shall burn only pipeline quality natural gas in the Start-up Boiler (SN-61). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

234. The permittee shall not combust in excess 618.35 million standard cubic feet of natural gas during any consecutive 12-month period at SN-61. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6 and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

235. The permittee shall maintain monthly records of the amount of natural gas combusted each month to demonstrate compliance with Specific Condition 234. Records shall be updated by the 15th day of the month for which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A twelve month rolling average and each individual month's data shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

236. The permittee shall test SN-61 for PM, PM_{10}, $PM_{2.5}$, SO_2, VOC, CO, and NO_x emissions. This test shall be conducted in accordance with Plantwide Condition 3, and once every 12 months thereafter. Once the facility has demonstrated compliance with the permitted emission rates after two consecutive passing tests, then the facility may perform stack testing once every 60 months. The permittee shall use EPA Reference Method 5 for PM, EPA Reference Methods 201 or 201A and 202 for PM_{10} and $PM_{2.5}$. The test for PM_{10} and $PM_{2.5}$ shall include filterable and condensable emissions. The permittee shall use EPA Reference Methods 6C, 25A, 10, and 7E for SO_2, VOC, CO, and NO_x, respectively. If at any time the facility has test results indicating an exceedance of a permitted emission rate, then the facility shall retest for the failing pollutant within 60 days of the failing test, and every 12 months thereafter. When the facility demonstrates that the facility is in compliance with the permitted emission rates after two consecutive passing tests, then the facility may return to performing stack testing once every 60 months. [Reg.19.702 and 40 C.F.R. § 52 Subpart E and Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

237. SN-61 is considered an affected source under 40 C.F.R. § 60, Subpart Db - *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, and is subject, but not limited to, Specific Conditions 238 through 253. [Reg.19.304 and 40 C.F.R. § 60 Subpart Db]

238. Except as provided under paragraphs (k) and (l) of § 60.44b, 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 § 60.44b 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 NO_x (expressed as NO_2) in excess of the following emission limits:

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO_2) heat input	
	ng/J	lb/MMBtu
Natural gas (High heat release rate)	86	0.20

[Reg.19.304 and 40 C.F.R. § 60.44b(a)]

239. For purposes of paragraph (i) of § 60.44b, the NO_x standards under § 60.44b apply at all times including periods of startup, shutdown, or malfunction. [Reg.19.304 and 40 C.F.R. § 60.44b(h)]

240. Except as provided under paragraph (j) of § 60.44b, compliance with the emission limits under § 60.44b is determined on a 30-day rolling average basis. [Reg.19.304 and 40 C.F.R. § 60.44b(i)]

241. 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 NO_x (expressed as NO_2) in excess of the following limits:

a. 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
b. 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:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:

E_n = NO_X emission limit, (lb/MMBtu);

H_{go} = 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.

c. 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 40CFR Part 60, and must monitor emissions according to § 60.49Da(c), (k), through (n) of subpart Da of 40 C.F.R. § 60.

[Reg.19.304 and 40 C.F.R. § 60.44b(l)]

242. The NO_x emission standards under § 60.44b apply at all times. [Reg.19.304 and 40 C.F.R. § 60.46b(a)]

243. Compliance with the NO_x emission standards under § 60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of § 60.46b, as applicable. [Reg.19.304 and 40 C.F.R. § 60.46b(c)]

244. To determine compliance with the emissions limits for NO_x 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 § 60.46b may be used:

a. The owner or operator of an affected facility shall conduct the performance test required under § 60.8 as follows:

i. The emissions rate (E) of NO_X shall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b}\right)\left(E_{sg} - E_g\right) \qquad \text{(Eq.1)}$$

Where:

E = Emissions rate of NO_X from the duct burner, ng/J (lb/MMBtu) heat input;

E_{sg} = Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of 40 C.F.R. § 60;

H_g = 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_g = 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 40 C.F.R. § 60.

ii. Method 7E of appendix A of this part shall be used to determine the NO_X concentrations. Method 3A or 3B of appendix A of 40 C.F.R. § 60 shall be used to determine O_2 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

b. 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 NO_x and O_2 and meet the requirements of § 60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_x emissions rate at the outlet from the steam generating unit shall constitute the NO_x emissions rate from the duct burner of the combined cycle system.

[Reg.19.304 and 40 C.F.R. § 60.46b(f)]

245. 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:

a. Monitor steam generating unit operating conditions and predict NO_x emission rates as specified in a plan submitted pursuant to § 60.49b(c).

[Reg.19.304 and 40 C.F.R. § 60.48b(g)(2)]

246. 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:

a. The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;
b. 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);
c. 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
d. Notification that an emerging technology will be used for controlling emissions of SO_2. 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.

[Reg.19.304 and 40 C.F.R. § 60.49b(a)]

247. The owner or operator of each affected facility subject to the NO_x 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:

a. Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO_x 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 O_2 level);
b. Include the data and information that the owner or operator used to identify the relationship between NO_x emission rates and these operating conditions; and
c. 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).

[Reg.19.304 and 40 C.F.R. § 60.49b(c)]

248. Except as provided in paragraph (d)(2) of § 60.49b, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of § 60.49b.

a. 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.
b. As an alternative to meeting the requirements of paragraph (d)(1) of § 60.49b, 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.

[Reg.19.304 and 40 C.F.R. § 60.49b(d)]

249. Except as provided under paragraph (p) of § 60.49b, the owner or operator of an affected facility subject to the NO_x standards under § 60.44b shall maintain records of the following information for each steam generating unit operating day:

a. Calendar date;
b. The average hourly NO_x emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;
c. The 30-day average NO_x 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;
d. Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_x emissions standards under § 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;
e. 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;
f. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
h. Identification of the times when the pollutant concentration exceeded full span of the CEMS;
i. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and
j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of 40 C.F.R. § 60.

[Reg.19.304 and 40 C.F.R. § 60.49b(g)]

250. The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of § 60.49b is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

a. Any affected facility subject to the opacity standards in § 60.43b(f) or to the operating parameter monitoring requirements in § 60.13(i)(1).
b. Any affected facility that is subject to the NO_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_x emissions on a continuous basis under § 60.48b(g)(1) or steam generating unit operating conditions under § 60.48b(g)(2).

c. 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).
d. For purposes of § 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO_x emission rate, as determined under § 60.46b(e), that exceeds the applicable emission limits in § 60.44b.

[Reg.19.304 and 40 C.F.R. § 60.49b(h)]

251. 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. [Reg.19.304 and 40 C.F.R. § 60.49b(o)]

252. The owner or operator of an affected facility may submit electronic quarterly reports for SO_2 and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of § 60.49b. 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. [Reg.19.304 and 40 C.F.R. § 60.49b(v)]

253. 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. [Reg.19.304 and 40 C.F.R. § 60.49b(w)]

Miscellaneous Operations

SN-25
Gasoline Storage Tank

Source Description

This 2,000 gallon aboveground storage tank (SN-25) is used to fuel facility vehicles and equipment.

Specific Conditions

254. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 255 and 256. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
25	Gasoline Storage Tank (2000 Gallon)	VOC	4.8	1.0

255. The permittee shall not use in excess of 40,000 gallons of gasoline per rolling 12-month total. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

256. The permittee shall keep records of the gasoline usage through the gasoline storage tank. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-26
Ammonium Nitrate (90% Solution) Storage Tanks

Source Description

Six above ground storage tanks (SN-26) are used to store 90% ammonium nitrate solution for prilling operations. Four (4) of the tanks are 650,000 gallons, and two (2) of the tanks are 1,200,000 gallons for a total storage of 5,000,000 gallons. Air emissions occur due to steam line heaters degrading the ammonium nitrate solution to ammonia.

Specific Conditions

257. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour emission rate limit is based on maximum capacity and tons per year emission rate limits are based on compliance with Specific Conditions 111 and 112. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
26	Ammonium Nitrate Storage Tanks	NH_3	0.3	0.8

SN-29
Nitric Acid Loading

Source Description

A portion of the nitric acid produced at EDCC is loaded into rail cars or trucks. Loading losses occur as vapors and are displaced to the atmosphere by the liquid being loaded into the rail cars or trucks.

Specific Conditions

258. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour emission rate limit is based on engineering estimates. Compliance with this Specific Condition is demonstrated by compliance with Specific 259, and 260. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
29	Nitric Acid Loading	HNO_3	Emissions are routed to SN-10	

259. The permittee shall not load in excess of 250,000 tons of nitric acid (100% acid equivalent) per rolling 12-month total at SN-29. [Reg.18.1004 and § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

260. The permittee shall keep records of the nitric acid shipped by truck and by rail from the facility. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.18.1004 and § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-31
Frick Ammonia Compressors

Source Description

Fugitive emissions occur from the handling of ammonia in the Frick Compressor Building. Standard Organic Chemical Manufacturing Industry (SOCMI) emission factors for compressors, pumps, valves, and flanges in ammonia service were used to estimate the fugitive ammonia emissions from the Frick Compressor Building.

Specific Conditions

261. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
31	Frick Ammonia Compressors	NH_3	0.5	2.0

SN-32
Ammonia Storage/Distribution Losses

Source Description

Fugitive emissions occur from the handling and distribution of ammonia. Standard Organic Chemical Manufacturing Industry (SOCMI) emission factors for compressors, pumps, valves, and flanges in ammonia service were used to estimate the fugitive ammonia emissions from the Ammonia Storage/Distribution.

Specific Conditions

262. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
32	Ammonia Storage/Distribution Losses	NH_3	1.6	7.0

SN-33
Nitric Acid Production Fugitives

Source Description

Fugitive emissions from the production, handling, mixing, blending decoloration, and storage of nitric acid are generated due to leaks in flanges, valve packings, etc. resulting in the release of nitrogen oxides and nitric acid mist. EDCC has nitrogen trioxide specifications for weak and strong nitric acid ranging from 0.01% to 0.05%.

Specific Conditions

263. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year rate limits are based on facility maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions 4, 5, 20, 21, 80, 81, and 82. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
33	Nitric Acid Plants Fugitive Emissions	NO_x	0.1	0.1

264. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on facility maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions 4, 5, 20, 21, 80, 81, and 82. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
33	Nitric Acid Plants Fugitive Emissions	HNO_3	0.01	0.02

SN-35A and SN-35B
Magnesium Oxide Silo Baghouse and Magnesium Oxide Silo Vent

Source Description

The Magnesium Oxide Silo pneumatically receives magnesium oxide powder from trucks or railcars. The baghouse (SN-35A) is located on top of the silo structure and controls particulate matter generated during the pneumatic transfer of magnesium oxide from the silo into the process day tank. The silo vent (SN-35B) discharges air as the silo pressure stabilizes after pneumatic filling from trucks and railcars.

Specific Conditions

265. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant as limited by Specific Conditions 111 and 112. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
35A	Magnesium Oxide Silo Baghouse	PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1
35B	Magnesium Oxide Silo Vent	PM_{10}	6.9	1.6
		$PM_{2.5}$	6.9	1.6

266. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant as limited by Specific Conditions 111 and 112. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
35A	Magnesium Oxide Silo Baghouse	PM	0.1	0.1
35B	Magnesium Oxide Silo Vent	PM	19.7	4.6

267. The permittee shall not exceed 5% opacity from SN-35A and 20% from SN-35B as measured by EPA Reference Method 9. Compliance with the opacity limit for SN-35A is demonstrated by compliance with Plantwide Condition 9. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

SN-40
Ammonium Nitrate Solution Loading

Source Description

EDCC ships ammonium nitrate solution to customers via trucks and railcars. The content of the solution ranges from 83% to 90% ammonium nitrate. Ammonia emissions occur as a result of the loading of the trucks and railcars.

Specific Conditions

268. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition 269 and 270. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
40	Ammonium Nitrate Solution Loading	NH_3	0.3	0.7

269. The permittee shall not load more than 65,000,000 gallons (373,750 tons at 11.5 lb/gal on an 85% solution basis) per rolling 12-month total of ammonium nitrate solution into railcars and/or trucks. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

270. The permittee shall keep records of the amount of ammonium nitrate solution loaded into railcars and/or trucks. These records shall contain each month's total and the rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent. These records shall be kept on site, made available to the Department personnel upon request, and submitted in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-58
Ammonia Rail and Truck Loading

Source Description

Liquid ammonia is sold as product and shipped by truck and/or railcar (SN-58).

Specific Conditions

271. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 261 and 262. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
58	Ammonia Rail and Truck Loading	NH_3	9.2	13.1

272. The permittee shall not load in excess of 226,300 tons of Ammonia per rolling 12-month total. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

273. The permittee shall keep records of the Ammonia loading. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the 15th of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision 7. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-62
Haul Road Fugitives

Source Description

Transport trucks and facility vehicles operate on paved and unpaved roads at the facility. Particulate matter emissions occur due to the vehicle traffic (SN-62).

Specific Conditions

274. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be shown by application of dust suppressant as necessary to control dust emissions. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
62	Haul Road Fugitives	PM_{10}	1.5	4.4
		$PM_{2.5}$	0.2	0.5

275. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be shown by application of dust suppressant as necessary to control dust emissions. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
62	Haul Road Fugitives	PM	6.7	20.8

276. Dust suppression activities should be conducted in a manner and at a rate of application that will not cause runoff from the area being applied. Best Management Practices (40 CFR §122.44(k)) should be used around streams and waterbodies to prevent the dust suppression agent from entering Waters of the State. Except for potable water, no agent shall be applied within 100 feet of wetlands, lakes, ponds, springs, streams, or sinkholes. Failure to meet this condition may require the permittee to obtain a National Pollutant Discharge Elimination System (NPDES) permit in accordance with 40 CFR §122.1(b). [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

277. The permittee shall implement a fugitive emission dust control plan to control dust emissions from the roadways. The permittee shall submit for Department approval a fugitive dust control plan for the roadways six months after issuance of Air Permit 0573-AOP-R16. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-64
KT LDAN Curing and Handling Warehouse Fugitives

Source Description

This 10,000 ft^2 warehouse will be used to cure LDAN product and prepare it for shipping. This material handling operation will be conducted inside a closed, air-conditioned building and any particulate emissions will be minimal.

Specific Conditions

278. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 131, and 132. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
64	KT LDAN Curing and Handling Warehouse Fugitives	PM_{10}	0.1	0.1
		$PM_{2.5}$	0.1	0.1

279. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 131, and 132. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
64	KT LDAN Curing and Handling Warehouse Fugitives	PM	0.2	0.8

SN-65 and SN-66
Emergency Water Pump and Ammonia Plant Emergency Generator

Source Description

SN-65 is a 315 hp diesel fired emergency water pump engine that is kept on site in case of emergencies.

SN-66 is a 477 hp natural gas fired Ammonia Plant Emergency Generator.

Specific Conditions

280. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 286 through 297. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-65	Emergency Water Pump	PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_x CO_2e	0.1 0.1 0.1 0.2 1.9 2.0 400	0.1 0.1 0.1 0.1 0.5 0.5 100
SN-66	Ammonia Plant Emergency Generator	PM_{10} $PM_{2.5}$ SO_2 VOC CO NO_x CO_2e	0.1 0.1 0.1 1.1 4.3 2.2 600	0.1 0.1 0.1 0.3 1.1 0.6 200

281. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 286 through 297. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
SN-65	Emergency Water Pump	PM	0.1	0.1

SN	Description	Pollutant	lb/hr	tpy
SN-66	Ammonia Plant Emergency Generator	PM	0.1	0.1

282. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 286 through 297. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	BACT	Limit
SN-65	Emergency Water Pump	NO_x	Good Combustion Practice	2.78 g/Hp-hr
		VOC	Good Combustion Practice	0.225 g/ Hp-hr
		CO	Good Combustion Practice	2.6 g/hp-hr
		SO_2	Ultra Low-Sulfur Fuel (sulfur ≤ 15 ppm) Combustion Only	1.21 E-5 hp-hr
		CO_2	Energy Efficient Design and Operation	91 tons per 12 month period
SN-66	Ammonia Plant Emergency Generator	NO_x	Good Combustion Practice	2.0 g/HP-hr
		VOC	Good Combustion Practice	1.0 g/HP-hr
		CO	Good Combustion Practice	4.0 g/HP-hr
		SO_2	Natural Gas Combustion only	7.35 E-4 lb/ MMBtu heat input
		CO_2	Energy Efficient Design and	138 tons per 12

			Operation	month period

283. The permittee shall not exceed 20% opacity from SN-65 as measured by EPA Reference Method 9. Compliance with this Condition shall be demonstrated by compliance with Specific Condition 285. [Reg.19.503 and 40 C.F.R. § 52 Subpart E]

284. The permittee shall not exceed 5 % opacity from SN-66 as measured by EPA Reference Method 9. Compliance with this condition shall be demonstrated by compliance with Specific Condition 285. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

285. The permittee shall conduct annual visible emissions observations as a method of compliance verification for the opacity limit assigned for SN-65 and 66. Observations shall be conducted by someone trained in EPA Reference Method 9. If during the observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall: [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

    a. Take immediate action to identify the cause of the visible emissions,
    b. Implement corrective action, and
    c. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9 for point sources and in accordance with EPA Method 22 for non-point sources. This reading shall be conducted by a person trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
    d. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

    The permittee shall maintain records related to all visible emission observations and Method 9 readings. These records shall be updated on an as-performed basis. These records shall be kept on site and made available to Department personnel upon request. These records shall contain:

    a. The time and date of each observation/reading,
    b. Any observance of visible emissions appearing to be above permitted limits or any Method 9 reading which indicates exceedance,
    c. The cause of any observed exceedance of opacity limits, corrective actions taken, and results of the reassessment, and
    d. The name of the person conducting the observation/reading.

286. The permittee shall not operate the emergency water pump, SN-65, or Ammonia Plant Emergency Generator, SN-66, in excess of 100 hours per calendar year. If the permittee operates SN-65 in excess of 100 hours during any calendar year, the permittee shall provide the necessary documentation to demonstrate that the engine still qualifies as an emergency engine as outlined in §63.6640(f). [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

287. The permittee shall maintain records which demonstrate compliance with the limit set in Specific Conditions 286. These records may be used by the Department for enforcement purposes. The records shall be updated on a monthly basis, shall be kept on site and made available to Department personnel upon request. A calendar year total and each individual month's data shall be recorded. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

288. SN-65 and 66 are subject to 40 C.F.R. § 63, Subpart ZZZZ. SN-65 shall comply with the requirements of Subpart ZZZZ by complying with the requirements of NSPS Subpart IIII. SN-66 shall comply with Subpart ZZZZ by complying with the requirements of NSPS Subpart JJJJ. [Reg.19.304 and 40 C.F.R. § 63 Subpart ZZZZ]

289. The permittee shall for SN-65 not exceed the emissions in the following table. The permittee must operate and maintain SN-65 that achieves the emission standards below over the entire life of the engine. [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

Source	Pollutant	Limit
SN-65	NMHC + NOx	4.0 g/KW-hr
	CO	3.5 g/KW-hr
	PM	0.2 g/KW-hr

290. The permittee shall use a diesel fuel in SN-65 that meets the requirements of 40 CFR 80.510(b). [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

291. SN-65 must be certified to meet the emission limitations of 60.4202(d). SN-65 must be installed and configured according to the manufacturers emission related specification. [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

292. The permittee must operate and maintain SN-65 and control device according to the manufacture's written emission-related instructions, change only those emission-related settings that are permitted by the manufacturer, and meet the requirements of 40 C.F.R. §s 89, 94, and/or 1068 as they apply to you. [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

293. The permittee may operate SN-65 a maximum of 100 hours per calendar year for maintenance and readiness checks. [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

294. The permittee shall maintain records of the time of operation of the engine and the reason the engine was in operation during that time. [Reg.19.304 and 40 C.F.R. § 60 Subpart IIII]

295. The permittee must for SN-66 comply with the emission standards in the table below. The permittee must operate and maintain SN-66 that achieves the emission standards in the table below over the entire life of the engine. [Reg.19.304 and 40 C.F.R. § 60 Subpart JJJJ]

Source	Pollutant	Standard
SN-66	NOx	2 g/HP-hr
	CO	4 g/HP-hr
	VOC	1 g/HP-hr

296. The AFR controller for SN-66 must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [Reg.19.304 and 40 C.F.R. § 60 Subpart JJJJ]

297. The permittee for SN-66 must keep records all notifications submitted to comply with this subpart and all documentation supporting any notification, maintenance conducted on the engine, if the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. §s 90, 1048, 1054, and 1060, as applicable, and if the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to § 60.4243(a)(2), documentation that the engine meets the emission standards. [Reg.19.304 and 40 C.F.R. § 60 Subpart JJJJ]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

El Dorado Chemical Company will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Reg.19.704, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Reg.19.410(B) and 40 C.F.R. § 52 Subpart E]

3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) calendar days after completing the testing. [Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

4. The permittee must provide:

   a. Sampling ports adequate for applicable test methods;
   b. Safe sampling platforms;
   c. Safe access to sampling platforms; and
   d. Utilities for sampling and testing equipment.

   [Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [Reg. 26 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

7. The NO_x emission limits for DMW No. 1 and the East and West Nitric Acid were established pursuant to a negotiated Consent Decree (Civil Action No. CIV-14-271-F,

filed on May 28, 2014) with the United States and shall not be relaxed without the approval of EPA and the Arkansas Department of Environmental Quality.

8. The permittee shall maintain and employ the Startup, Shutdown, and Malfunction Plan for SN-07, SN-08, SN-09, SN-13, SN-41, SN-49, SN-59, and SN-63. If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. The SSMP shall include requirements to record any downtime, malfunction, startup, or shutdown. Any deviations from a permit requirement shall be reported to the Department in accordance with General Provision #8 with the exception that exceedences to which procedures exist in the SSM Plan may be reported as part of the semi-annual reporting. The Department reserves the right to review any such exceedences in accordance with provisions of §19.601. [Regulation 18, §18.801 and §18.1004, Regulation 19 §19.601, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

9. The permittee shall conduct observations of the opacity from SN-05A, SN-05B, SN-07 through SN-10, SN-13, SN-14, SN-18, SN-19, SN-21, SN-27, SN-28, SN-34, SN-35A, SN-41, SN-44, SN-47, SN-49, SN-59, and SN-63 by a person trained, but not necessarily certified, in EPA Reference Method 9. For sources with 5% or less opacity limits, observations shall be conducted weekly. Daily observations shall be conducted for all other sources. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request and shall include:

a. The date and time of the observation;
b. If visible emissions which appeared to be above the permitted limit were detected;
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if

the visible emissions appeared to be below the permitted limit after the corrective action was taken; and

d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, §18.1004, Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52 Subpart E]

10. The permittee shall only use pipeline quality natural gas as fuel for sources complying with this condition located at this facility. Pipeline quality natural gas is defined as gas which contains less than 0.25 grains total sulfur per 100 standard cubic feet of natural gas. Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 BTU per standard cubic foot. Compliance with this condition may be demonstrated by a valid gas tariff, purchase contract, fuel analysis or other appropriate documentation, or periodic testing. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 and 40 CFR 70.6]

11. The permittee shall install, operate, and maintain ambient air monitor for NO_2. The permittee shall submit a monitoring protocol to the Department within 60 days of issuance of 0573-AOP-R17. The Department must approve of the monitoring protocol prior to installation of the monitors. The monitors shall be installed and operating within 180 days of approval of the plan. [Regulation 19, §19.502 and §19.901; Regulation 26, §26.701; and 40 CFR Part 52 Subpart E]

12. The permittee shall complete the fence around the property, according to the air dispersion modeling submitted to the Department, within 90 days of startup of the Expansion Project. The following table contains the UTM coordinates provided to the Department. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

UTM East West (X)	UTM North South (Y)
527756.6	3681900
527748.1	3681819
527832.9	3681722
527900.8	3681616
527926.2	3681561
527917.8	3681378
527896.6	3681272
527799	3681179

UTM East West (X)	UTM North South (Y)
527769.3	3681158
527765.1	3680437
527841.4	3680437
527841.4	3679750
528036.5	3679674
528095.9	3679636
528634.4	3679636
528638.6	3679483
529003.3	3679483
529003.3	3679309
529151.7	3679309
529151.7	3679627
530029.5	3679627
530029.5	3680568
531297.4	3680475
531187.1	3680806
530216.1	3680827
530216.1	3681234
529944.7	3681234
529944.7	3681645
529635.1	3681645
529635.1	3682409
529185.6	3682409
529185.6	3682388
529028.7	3682388
529028.7	3682426
528744.6	3682421
528740.4	3681908

NESHAP Subpart DDDDD Requirements

13. SN-49, SN-54, and SN-61 are considered affected sources under 40 CFR Part 63, Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, and is subject, but not limited to, Plantwide Conditions 14 through 42. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart DDDDD]

14. If you have a new or reconstructed boiler or process heater, you must comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later. [§63.7495(a)]

15. If you have an existing boiler or process heater, you must comply with 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016, except as provided in §63.6(i). [§63.7495(b)]

16. You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of 40 CFR Part 63. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in 40 CFR Part 63, Subpart DDDDD. [§63.7495(d)]

17. You must meet the requirements in paragraphs (a)(1) through (3) of §63.7500, except as provided in paragraphs (b), through (e) of §63.7500. You must meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of §63.7500. [§63.7500(a)]

18. As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in §63.7500. [§63.7500(b)]

19. 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 40 CFR Part 63, Subpart DDDDD, the annual tune-up, or the energy assessment requirements in Table 3 to 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 to 40 CFR Part 63, Subpart DDDDD. [§63.7500(c)]

20. 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 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 to 40 CFR Part 63, Subpart DDDDD. [§63.7500(e)]

21. In response to an action to enforce the standards set forth in §63.7500 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at §63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. [§63.7501]

22. You must be in compliance with the emission limits, work practice standards, and operating limits in 40 CFR Part 63, Subpart DDDDD. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f). [§63.7505(a)]

23. 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 40 CFR Part 63, Subpart DDDDD within the applicable annual, biennial, or 5-year schedule as specified in §63.7540(a) 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 §63.7540(a). [§63.7510(g)]

24. 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 40 CFR Part 63, Subpart DDDDD, as specified in paragraphs (a) through (d) of §63.7510, 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 40 CFR Part 63, Subpart DDDDD. 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 40 CFR Part 63, Subpart DDDDD, no later than the compliance date specified in §63.7495. [§63.7510(j)]

25. 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 the initial startup of the new or reconstructed affected source. [§63.7515(d)]

26. 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 40 CFR Part 63, Subpart DDDDD, 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 40 CFR Part 63, Subpart DDDDD. 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. [§63.7515(g)]

27. If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit. [§63.7530(d)]

28. You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to 40 CFR Part 63, Subpart DDDDD and is an accurate depiction of your facility at the time of the assessment. [§63.7530(e)]

29. You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e). [§63.7530(f)]

30. You must demonstrate continuous compliance with each emission limit in Tables 1 and 2 or 11 through 13 to 40 CFR Part 63, Subpart DDDDD, the work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD, and the operating limits in Table 4 to 40 CFR Part 63, Subpart DDDDD that applies to you according to the methods specified in Table 8 to 40 CFR Part 63, Subpart DDDDD and paragraphs (a)(1) through (19) of §63.7540.

    a. 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 §63.7540. 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 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 NO_X 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, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of §63.7540,
    1. 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;
    2. A description of any corrective actions taken as a part of the tune-up; and
    3. 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.

b. 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 §63.7540 to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of §63.7540 until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months.
c. 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.

[§63.7540(a)(10), (a)(12), and (a)(13)]

31. 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. [§63.7545(a)]

32. 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. [§63.7545(c)]

33. 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), 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). [§63.7545(e)]

34. If you have switched fuels or made a physical change to the boiler 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:

    a. 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.
    b. The currently applicable subcategory under 40 CFR Part 63, Subpart DDDDD.
    c. The date upon which the fuel switch or physical change occurred.

    [§63.7545(h)]

35. You must submit each report in Table 9 to 40 CFR Part 63, Subpart DDDDD that applies to you. [§63.7550(a)]

36. You must keep records according to paragraphs (a)(1) of §63.7555, which includes a copy of each notification and report that you submitted to comply with 40 CFR Part 63, Subpart DDDDD, 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). [§63.7555(a)(1)]

37. If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to 40 CFR Part 63, Subpart DDDDD, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under 40 CFR Part 63, other gas 1 fuel, or gaseous fuel subject to another subpart under 40 CFR Part 63 or 40 CFR 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. [§63.7555(h)]

38. You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. [§63.7555(i)]

39. You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown. [§63.7555(j)]

40. Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). [§63.7560(a)]

41. 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. [§63.7560(b)]

42. 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. [§63.7560(c)]

Title VI Provisions

43. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
    c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

44. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
    c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
    d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC like appliance" as defined at §82.152)
    e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
    f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

45. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

46. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

    The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.

47. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of Reg.26.304 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated May 28, 2015.

Description	Category
Molten Sulfur Storage Tank (formerly SN-23)	B-21
Diesel Storage Tank (500 Gallon) (formerly SN-24)	A-3
Diesel Storage Tank (2,000 Gallon) (formerly SN-45)	A-3
2 x Ammonia Flares	A-13
Sulfur Unloading/Storage	A-13
Ammonia Offloading	A-13
Tier 2 Warehouse	A-13
Natural Gas Pipeline Knockout Pot	A-13
Portable Cooling Tower	A-13
Sulfuric Acid Solution Storage Tanks	B-21

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 C.F.R. § 70.6(b)(2)]

2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 C.F.R. § 70.6(a)(2) and Reg.26.701(B)]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Reg.26.406]

4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 C.F.R. § 70.6(a)(1)(ii) and Reg.26.701(A)(2)]

5. The permittee must maintain the following records of monitoring information as required by this permit.

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses performed;
    c. The company or entity performing the analyses;
    d. The analytical techniques or methods used;
    e. The results of such analyses; and
    f. The operating conditions existing at the time of sampling or measurement.

    [40 C.F.R. § 70.6(a)(3)(ii)(A) and Reg.26.701(C)(2)]

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 C.F.R. § 70.6(a)(3)(ii)(B) and Reg.26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every six (6) months. If the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Reg.26.2 must certify all required reports. The permittee will send the reports to the address below:

   Arkansas Department of Environmental Quality
   Air Division
   ATTN: Compliance Inspector Supervisor
   5301 Northshore Drive
   North Little Rock, AR 72118-5317

   [40 C.F.R. § 70.6(a)(3)(iii)(A) and Reg.26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

   a. For all upset conditions (as defined in Reg.19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:

      i. The facility name and location;
      ii. The process unit or emission source deviating from the permit limit;
      iii. The permit limit, including the identification of pollutants, from which deviation occurs;
      iv. The date and time the deviation started;
      v. The duration of the deviation;
      vi. The emissions during the deviation;
      vii. The probable cause of such deviations;

viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Reg.19.601, Reg.19.602, Reg.26.701(C)(3)(b), and 40 C.F.R. § 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 C.F.R. § 70.6(a)(5), Reg.26.701(E), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. § 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 C.F.R. § 70.6(a)(6)(i) and Reg.26.701(F)(1)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 C.F.R. § 70.6(a)(6)(ii) and Reg.26.701(F)(2)]

12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 C.F.R. § 70.6(a)(6)(iii) and Reg.26.701(F)(3)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. § 70.6(a)(6)(iv) and Reg.26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 C.F.R. § 70.6(a)(6)(v) and Reg.26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 C.F.R. § 70.6(a)(7) and Reg.26.701(G)]

16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 C.F.R. § 70.6(a)(8) and Reg.26.701(H)]

17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 C.F.R. § 70.6(a)(9)(i) and Reg.26.701(I)(1)]

18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 C.F.R. § 70.6(b) and Reg.26.702(A) and (B)]

19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Reg.26.2. [40 C.F.R. § 70.6(c)(1) and Reg.26.703(A)]

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 C.F.R. § 70.6(c)(2) and Reg.26.703(B)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually. If the permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due on the first day of the second month after the end of the reporting period. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 C.F.R. § 70.6(c)(5) and Reg.26.703(E)(3)]

    a. The identification of each term or condition of the permit that is the basis of the certification;
    b. The compliance status;
    c. Whether compliance was continuous or intermittent;
    d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
    e. Such other facts as the Department may require elsewhere in this permit or by § 114(a)(3) and § 504(b) of the Act.

22. Nothing in this permit will alter or affect the following: [Reg.26.704(C)]

    a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
    b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
    c. The applicable requirements of the acid rain program, consistent with § 408(a) of the Act; or
    d. The ability of EPA to obtain information from a source pursuant to § 114 of the Act.

23. This permit authorizes only those pollutant emitting activities addressed in this permit. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:

    a. Such an extension does not violate a federal requirement;
    b. The permittee demonstrates the need for the extension; and

c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Reg.18.314(A), Reg.19.416(A), Reg.26.1013(A), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:

   a. Such a request does not violate a federal requirement;
   b. Such a request is temporary in nature;
   c. Such a request will not result in a condition of air pollution;
   d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
   e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
   f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Reg.18.314(B), Reg.19.416(B), Reg.26.1013(B), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:

   a. The request does not violate a federal requirement;
   b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
   c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Reg.18.314(C), Reg.19.416(C), Reg.26.1013(C), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

APPENDIX A

40 CFR Part 60, Subpart Db - *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*

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

Contents

SOURCE: 72 FR 32742, June 13, 2007, unless otherwise noted.

§ 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 (NO_x) 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 NO_x standards under this subpart and to the sulfur dioxide (SO_2) 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 NO_x 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 NO_x standards under this subpart and the PM and SO_2 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 NO_x standards under this subpart and the SO_2 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 NO_x 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 SO_2 and NO_x standards under this subpart and the PM standards under subpart BB.

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

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 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 (CO_2) 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 SO_2 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 SO_2 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_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_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 SO_2 emission control, has a SO_2 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 SO_2 emission control, has a SO_2 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 SO_2 emission control, has a SO_2 emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO_2 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 SO_2.

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

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.42b Standard for sulfur dioxide (SO_2).

(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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO_2 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 = SO_2 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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO_2 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 SO_2 emissions, shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 50 percent of the potential SO_2 emission rate (50 percent reduction) and that contain SO_2 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/MM Btu 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 SO_2 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 § 60.45b(a), the SO_2 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 SO_2 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 SO_2 emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO_2 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 SO_2 control system is not being operated because of malfunction or maintenance of the SO_2 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 § 60.45b(c) or § 60.45b(d), and following the monitoring procedures as described in § 60.47b(a) or § 60.47b(b) to determine SO_2 emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in § 60.49b(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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO_2 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 SO_2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO_2 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 SO_2 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 SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 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

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(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 SO_2 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 SO_2 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 SO_2 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 SO_2 or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.44b Standard for nitrogen oxides (NO_x).

(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 NO_x (expressed as NO_2) in excess of the following emission limits:

	Nitrogen oxide emission limits (expressed as NO_2) heat input	
Fuel/steam generating unit type	**ng/J**	**lb/MMBTu**
(1) Natural gas and distillate oil, except (4):		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50
(4) Duct burner used in a combined cycle system:		
(i) Natural gas and distillate oil	86	0.20
(ii) Residual oil	170	0.40

(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:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n = NO_x emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go} = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go} = Heat input from combustion of natural gas or distillate oil, J (MMBtu);

EL_{ro} = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

H_{ro} = Heat input from combustion of residual oil, J (MMBtu);

EL_c = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_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_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_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 (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 only coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NO_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:

(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_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_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_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_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_x emission limit will be established at the NO_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_x emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_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_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_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_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_x emission limits of this section. The NO_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 NO_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.

(h) For purposes of paragraph (i) of this section, the NO_x 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 NO_x 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:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:

E_n = NO_x emission limit, (lb/MMBtu);

H_{go} = 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.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009; 77 FR 9459, Feb. 16, 2012]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO_2 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 SO_2 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 SO_2 emission rate (% P_s) and the SO_2 emission rate (E_s) 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 SO_2 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 SO_2 emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). 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 SO_2 emission rate ($\%P_s$) 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:

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

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

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

(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 SO_2 emission rate ($E_{ho}°$) is used in Equation 19-19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate ($E_{ao}°$). The Eho° is computed using the following formula:

$$E_{ho}^{\circ} = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

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

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

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by 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 = 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 $\%R_g$ ($\%R_g^{\circ}$) is computed from the adjusted E_{ao}° from paragraph (b)(3)(i) of this section and an adjusted average SO_2 inlet rate (E_{ai}°) using the following formula:

$$\%R_g^{\circ} = 100\left(1.0 - \frac{E_{ao}^{\circ}}{E_{ai}^{\circ}}\right)$$

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

$$E_{hi}^{\circ} = \frac{E_{hi} - E_w(1 - X_1)}{X_1}$$

Where:

E_{hi}° = Adjusted hourly SO_2 inlet rate, ng/J (lb/MMBtu); and

E_{hi} = Hourly SO_2 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_s) 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 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 SO_2 emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for SO_2 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 SO_2 emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for SO_2 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 SO_2 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 SO_2 emissions data in calculating $\%P_s$ and E_{ho} 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 SO_2 emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\%P_s$ and E_{ho} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO_2 control systems when oil is combusted as provided under § 60.42b(i), emission data are not used to calculate $\%P_s$ or E_s 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 SO_2 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 NO_x 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 NO_x 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 (O_2) or CO_2 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 O_2 or CO_2 measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

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

(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 NO_x 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 NO_x under § 60.48(b).

(1) For the initial compliance test, NO_x 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 NO_x 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 NO_x 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 NO_x 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 NO_x 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 NO_x 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 NO_x standards in § 60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_x 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 NO_x 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 NO_x 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 NO_x 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:

(1) The owner or operator of an affected facility shall conduct the performance test required under § 60.8 as follows:

(i) The emissions rate (E) of NO_x shall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b}\right)(E_{sg} - E_g) \qquad \text{(Eq.1)}$$

Where:

E = Emissions rate of NO_x from the duct burner, ng/J (lb/MMBtu) heat input;

E_{sg} = 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_g = 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_g = 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 shall be used to determine the NO_x concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O_2 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 NO_x and O_2 and meet the requirements of § 60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_x emissions rate at the outlet from the steam generating unit shall constitute the NO_x 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 NO_x emission standards under § 60.44b using Method 7, 7A, 7E of appendix A of this part, 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 NO_x 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, 7E of appendix A of this part, 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 O_2 (or CO_2) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

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

(ii) For O_2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

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

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

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9460, Feb. 16, 2012]

§ 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 SO_2 standards in § 60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO_2 concentrations and either O_2 or CO_2 concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the SO_2 and either O_2 or CO_2 concentrations shall both be monitored at the inlet and outlet of the SO_2 control device. If the owner or operator has installed and certified SO_2 and O_2 or CO_2 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, SO_2 concentration data and CO_2 (or O_2) data are collected simultaneously; and

(2) In addition to meeting the applicable SO_2 and CO_2 (or O_2) 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. SO_2 and CO_2 (or O_2) 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 SO_2 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 SO_2 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 SO_2 input rate, or

(2) Measuring SO_2 according to Method 6B of appendix A of this part at the inlet or outlet to the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in 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 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 SO_2 emission rate, E_D , 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 SO_2 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 SO_2 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 SO_2 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 SO_2 CEMS at the inlet to the SO_2 control device is 125 percent of the maximum estimated hourly potential SO_2 emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO_2 control device is 50 percent of the maximum estimated hourly potential SO_2 emissions of the fuel combusted. Alternatively, SO_2 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 CO_2 and O_2 monitors and for SO_2 and NO_x 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 CO_2 and O_2 monitors and for SO_2 and NO_x 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 SO_2 and NO_x span values less than or equal to 30 ppm; and

(iii) For SO_2 , CO_2 , and O_2 monitoring systems and for NO_x 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 SO_2 (regardless of the SO_2 emission level during the RATA), and for NO_x when the average NO_x 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 § 60.45b(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).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 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 NO_x 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 NO_x and O_2 (or CO_2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NO_x 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 NO_x emission rates measured by the continuous NO_x 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 NO_x is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NO_x span values shall be determined as follows:

Fuel	**Span values for NO_X (ppm)**
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

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 NO_x 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 NO_x 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 NO_x 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 NO_x 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 NO_x 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 NO_x 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 SO_2 emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO_2 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 SO_2 or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2 , or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 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 SO_2 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).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9460, Feb. 16, 2012]

§ 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 SO_2 . 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 SO_2 , PM, and/or NO_x 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 NO_x 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 NO_x 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 O_2 level);

(2) Include the data and information that the owner or operator used to identify the relationship between NO_x 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 combusts 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 § 60.48b(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 NO_x 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 NO_x emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO_x 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_x emission rates are in excess of the NO_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_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_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_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_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_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_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_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 SO_2 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 SO_2 or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours 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; and

(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 SO_2 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 $S0_2$ or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and 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 RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§ 60.47b(e)(4)(i) through (e)(4)(iii).

(m) For each affected facility subject to the SO_2 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.* , $\%R_f$) is used to determine the overall percent reduction (*i.e.* , $\%R_o$) 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.* , $\%R_f$) 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 NO_x emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_x 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 NO_x 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 NO_x emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NO_x 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 NO_x emission limit shall be determined by the compliance and performance test methods and procedures for NO_x in § 60.46b(i).

(iii) The monitoring of the NO_x 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.

(t) Facility-specific NO_x 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 NO_x 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 NO_x emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_x 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 NO_x emission limit shall be determined by the compliance and performance test methods and procedures for NO_x in § 60.46b.

(iii) The monitoring of the NO_x 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 NO_x technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO_x 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 SO_2 and/or NO_x 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 NO_x 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 NO_x emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_x emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides* . (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 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 NO_x 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.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5089, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

APPENDIX B

40 CFR Part 60, Subpart G - *Standards of Performance for Nitric Acid Plants*

Subpart G—Standards of Performance for Nitric Acid Plants

§ 60.70 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each nitric acid production unit, which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

§ 60.71 Definitions.

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

(a) *Nitric acid production unit* means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(b) *Weak nitric acid* means acid which is 30 to 70 percent in strength.

§ 60.72 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid.

(2) Exhibit 10 percent opacity, or greater.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975]

§ 60.73 Emission monitoring.

(a) The source owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides (NO_X). The pollutant gas mixtures under Performance Specification 2 and for calibration checks under §60.13(d) of this part shall be nitrogen dioxide (NO_2). The span value shall be 500 ppm of NO_2. Method 7 shall be used for the performance evaluations under §60.13(c). Acceptable alternative methods to Method 7 are given in §60.74(c).

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be reestablished during any performance test under §60.8 or any continuous monitoring system performance evaluation under §60.13(c).

(c) The owner or operator shall record the daily production rate and hours of operation.

(d) [Reserved]

(e) For the purpose of reports required under §60.7(c), periods of excess emissions that shall be reported are defined as any 3-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous 1-hour periods) as measured by a continuous monitoring system exceed the standard under §60.72(a).

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975; 50 FR 15894, Apr. 22, 1985; 54 FR 6666, Feb. 14, 1989]

§ 60.74 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). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the NO_Xstandard in §60.72 as follows:

(1) The emission rate (E) of NO_Xshall be computed for each run using the following equation:

$E=(C_s Q_{sd})/(P\ K)$

where:

E=emission rate of NO_Xas NO_2, kg/metric ton (lb/ton) of 100 percent nitric acid.

C_s=concentration of NO_Xas NO_2, g/dscm (lb/dscf).

Q_{sd}=volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P=acid production rate, metric ton/hr (ton/hr) or 100 percent nitric acid.

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 7 shall be used to determine the NO_Xconcentration of each grab sample. Method 1 shall be used to select the sampling site, and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Four grab samples shall be taken at approximately 15-minute intervals. The arithmetic mean of the four sample concentrations shall constitute the run value (C_s).

(3) Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas. The measurement site shall be the same as for the NO_Xsample. A velocity traverse shall be made once per run within the hour that the NO_Xsamples are taken.

(4) The methods of §60.73(c) shall be used to determine the production rate (P) of 100 percent nitric acid for each run. Material balance over the production system shall be used to confirm the production rate.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 7, Method 7A, 7B, 7C, or 7D may be used. If Method 7C or 7D is used, the sampling time shall be at least 1 hour.

(d) The owner or operator shall use the procedure in §60.73(b) to determine the conversion factor for converting the monitoring data to the units of the standard.

[54 FR 6666, Feb. 14, 1989]

APPENDIX C

40 CFR Part 60, Subpart Ga – *Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011*

Subpart Ga—Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011

Contents

SOURCE: 77 FR 48445, Aug. 14, 2012, unless otherwise noted.

§ 60.70a Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each nitric acid production unit, which is the affected facility.

(b) This subpart applies to any nitric acid production unit that commences construction or modification after October 14, 2011.

§ 60.71a Definitions.

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

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Monitoring system malfunction means a 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 implement 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.

Nitric acid production unit means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

Operating day means a 24-hour period beginning at 12:00 a.m. during which the nitric acid production unit operated at any time during this period.

Weak nitric acid means acid which is 30 to 70 percent in strength.

§ 60.72a Standards.

Nitrogen oxides. On and after the date on which the performance test required to be conducted by § 60.73a(e) is completed, you may not discharge into the atmosphere from any affected facility any gases which contain NO_x, expressed as NO_2, in excess of 0.50 pounds (lb) per ton of nitric acid produced, as a 30-day emission rate calculated based on 30 consecutive operating days, the production being expressed as 100 percent nitric acid. The emission standard applies at all times.

§ 60.73a Emissions testing and monitoring.

(a) *General emissions monitoring requirements.* You must install and operate a NO_x concentration (ppmv) continuous emissions monitoring system (CEMS). You must also install and operate a stack gas flow rate monitoring system. With measurements of stack gas NO_x concentration and stack gas flow rate, you will determine hourly NO_x emissions rate (e.g., lb/hr) and with measured data of the hourly nitric acid production (tons), calculate emissions in units of the applicable emissions limit (lb/ton of 100 percent acid produced). You must operate the monitoring system and report emissions during all operating periods including unit startup and shutdown, and malfunction.

(b) *Nitrogen oxides concentration continuous emissions monitoring system.* (1) You must install, calibrate, maintain, and operate a CEMS for measuring and recording the concentration of NO_x emissions in accordance with the provisions of § 60.13 and Performance Specification 2 of Appendix B and Procedure 1 of Appendix F of this part. You must use cylinder gas audits to fulfill the quarterly auditing requirement at section 5.1 of Procedure 1 of Appendix F of this part for the NO_x concentration CEMS.

(2) For the NO_x concentration CEMS, use a span value, as defined in Performance Specification 2, section 3.11, of Appendix B of this part, of 500 ppmv (as NO_2). If you emit NO_x at concentrations higher than 600 ppmv (e.g., during startup or shutdown periods), you must apply a second CEMS or dual range CEMS and a second span value equal to 125 percent of the maximum estimated NO_x emission concentration to apply to the second CEMS or to the higher of the dual analyzer ranges during such periods.

(3) For conducting the relative accuracy test audits, per Performance Specification 2, section 8.4, of Appendix B of this part and Procedure 1, section 5.1.1, of Appendix F of this part, use either EPA Reference Method 7, 7A, 7C, 7D, or 7E of Appendix A-4 of this part; EPA Reference Method 320 of Appendix A of part 63 of this chapter; or ASTM D6348-03 (incorporated by reference, see § 60.17). To verify the operation of the second CEMS or the higher range of a dual analyzer CEMS described in paragraph (b)(2) of this section, you need not conduct a relative accuracy test audit but only the calibration drift test initially (found in Performance Specification 2, section 8.3.1, of Appendix B of this part) and the cylinder gas audit thereafter (found in Procedure 1, section 5.1.2, of Appendix F of this part).

(4) If you use EPA Reference Method 7E of Appendix A-4 of this part, you must mitigate loss of NO_2 in water according to the requirements in paragraphs (b)(4)(i), (ii), or (iii) of this section and verify performance by conducting the system bias checks required in EPA Reference Method 7E, section 8, of Appendix A-4 of this part according to (b)(4)(iv) of this section, or follow the dynamic spike procedure according to paragraph (b)(4)(v) of this section.

(i) For a wet-basis measurement system, you must measure and report temperature of sample line and components (up to analyzer inlet) to demonstrate that the temperatures remain above the sample gas dew point at all times during the sampling.

(ii) You may use a dilution probe to reduce the dew point of the sample gas.

(iii) You may use a refrigerated-type condenser or similar device (e.g., permeation dryer) to remove condensate continuously from sample gas while maintaining minimal contact between condensate and sample gas.

(iv) If your analyzer measures nitric oxide (NO) and nitrogen dioxide (NO_2) separately, you must use both NO and NO_2 calibration gases. Otherwise, you must substitute NO_2 calibration gas for NO calibration gas in the performance of system bias checks.

(v) You must conduct dynamic spiking according to EPA Reference Method 7E, section 16.1, of Appendix A-4 of this part using NO_2 as the spike gas.

(5) Instead of a NO_x concentration CEMS meeting Performance Specification 2, you may apply an FTIR CEMS meeting the requirements of Performance Specification 15 of Appendix B of this part to measure NO_x concentrations. Should you use an FTIR CEMS, you must replace the Relative Accuracy Test Audit requirements of Procedure 1 of appendix F of this part with the validation requirements and criteria of Performance Specification 15, sections 11.1.1 and 12.0, of Appendix B of this part.

(c) *Determining NO_x mass emissions rate values.* You must use the NO_x concentration CEMS, acid production, gas flow rate monitor and other monitoring data to calculate emissions data in units of the applicable limit (lb NO_x /ton of acid produced expressed as 100 percent nitric acid).

(1) You must install, calibrate, maintain, and operate a CEMS for measuring and recording the stack gas flow rates to use in combination with data from the CEMS for measuring emissions concentrations of NO_x to produce data in units of mass rate (e.g., lb/hr) of NO_x on an hourly basis. You will operate and certify the continuous emissions rate monitoring system (CERMS) in accordance with the provisions of § 60.13 and Performance Specification 6 of Appendix B of this part. You must comply with the following provisions in (c)(1)(i) through (iii) of this section.

(i) You must use a stack gas flow rate sensor with a full scale output of at least 125 percent of the maximum expected exhaust volumetric flow rate (see Performance Specification 6, section 8, of Appendix B of this part).

(ii) For conducting the relative accuracy test audits, per Performance Specification 6, section 8.2 of Appendix B of this part and Procedure 1, section 5.1.1, of Appendix F of this part, you must use either EPA Reference Method 2, 2F, or 2G of Appendix A-4 of this part. You may also apply Method 2H in conjunction with other velocity measurements.

(iii) You must verify that the CERMS complies with the quality assurance requirements in Procedure 1 of Appendix F of this part. You must conduct relative accuracy testing to provide for calculating the relative accuracy for RATA and RAA determinations in units of lb/hour.

(2) You must determine the nitric acid production parameters (production rate and concentration) by installing, calibrating, maintaining, and operating a permanent monitoring system (e.g., weigh scale, volume flow meter, mass flow meter, tank volume) to measure and record the weight rates of nitric acid produced in tons per hour. If your nitric acid production rate measurements are for periods longer than hourly (e.g., daily values), you will determine average hourly production values, tons acid/hr, by dividing the total acid production by the number of hours of process operation for the subject measurement period. You must comply with the following provisions in (c)(2)(i) through (iv) of this section.

(i) You must verify that each component of the monitoring system has an accuracy and precision of no more than ±5 percent of full scale.

(ii) You must analyze product concentration via titration or by determining the temperature and specific gravity of the nitric acid. You may also use ASTM E1584-11 (incorporated by reference, see § 60.17), for determining the concentration of nitric acid in percent. You must determine product concentration daily.

(iii) You must use the acid concentration to express the nitric acid production as 100 percent nitric acid.

(iv) You must record the nitric acid production, expressed as 100 percent nitric acid, and the hours of operation.

(3) You must calculate hourly NO_x emissions rates in units of the standard (lb/ton acid) for each hour of process operation. For process operating periods for which there is little or no acid production (e.g., startup or shutdown), you must use the average hourly acid production rate determined from the data collected over the previous 30 days of normal acid production periods (see § 60.75a).

(d) *Continuous monitoring system.* For each continuous monitoring system, including NO_x concentration measurement, volumetric flow rate measurement, and nitric acid production measurement equipment, you must meet the requirements in paragraphs (d)(1) through (3) of this section.

(1) You must operate the monitoring system and collect data at all required intervals at all times the affected facility is operating except for periods of monitoring system malfunctions or out-of-control periods as defined in Appendix F, sections 4 and 5, of this part, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments.

(2) You may not use data recorded during 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 calculations used to report emissions or operating levels. You must use all the data collected during all other periods in calculating emissions and the status of compliance with the applicable emissions limit in accordance with § 60.72a(a).

(e) *Initial performance testing.* You must conduct an initial performance test to demonstrate compliance with the NO_x emissions limit under § 60.72a(a) beginning in the calendar month following initial certification of the NO_x and flow rate monitoring CEMS. The initial performance test consists of collection of hourly NO_x average concentration, mass flow rate recorded with the certified NO_x concentration and flow rate CEMS and the corresponding acid generation (tons) data for all of the hours of operation for the first 30 days beginning on the first day of the first month following completion of the CEMS installation and certification as described above. You must assure that the CERMS meets all of the data quality assurance requirements as per § 60.13 and Appendix F, Procedure 1, of this part and you must use the data from the CERMS for this compliance determination.

§ 60.74a Affirmative defense for violations of emission standards during malfunction.

In response to an action to enforce the standards set forth in § 60.72a, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

§ 60.75a Calculations.

(a) You must calculate the 30 operating day rolling arithmetic average emissions rate in units of the applicable emissions standard (lb NO_x /ton 100 percent acid produced) at the end of each operating day using all of the quality assured hourly average CEMS data for the previous 30 operating days.

(b) You must calculate the 30 operating day average emissions rate according to Equation 1:

$$\frac{E_{30} = k\frac{1}{n}\sum_{i=1}^{n} C_i\, Q_i}{P_i} \quad \text{(Eq. 1)}$$

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Where:

E_{30} = 30 operating day average emissions rate of NO_x , lb NO_x /ton of 100 percent HNO_3 ;

C_i = concentration of NO_x for hour i, ppmv;

Q_i = volumetric flow rate of effluent gas for hour i, where C_i and Q_i are on the same basis (either wet or dry), scf/hr;

P_i = total acid produced during production hour i, tons 100 percent HNO_3 ;

k = conversion factor, 1.194×10^{-7} for NO_x ; and

n = number of operating hours in the 30 operating day period, i.e., n is between 30 and 720.

§ 60.76a Recordkeeping.

(a) For the NO_x emissions rate, you must keep records for and results of the performance evaluations of the continuous emissions monitoring systems.

(b) You must maintain records of the following information for each 30 operating day period:

(1) Hours of operation.

(2) Production rate of nitric acid, expressed as 100 percent nitric acid.

(3) 30 operating day average NO_x emissions rate values.

(c) You must maintain records of the following time periods:

(1) Times when you were not in compliance with the emissions standards.

(2) Times when the pollutant concentration exceeded full span of the NO_x monitoring equipment.

(3) Times when the volumetric flow rate exceeded the high value of the volumetric flow rate monitoring equipment.

(d) You must maintain records of the reasons for any periods of noncompliance and description of corrective actions taken.

(e) You must maintain records of any modifications to CEMS which could affect the ability of the CEMS to comply with applicable performance specifications.

(f) For each malfunction, you must maintain records of the following information:

(1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 60.11(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

§ 60.77a Reporting.

(a) The performance test data from the initial and subsequent performance tests and from the performance evaluations of the continuous monitors must be submitted to the Administrator at the appropriate address as shown in 40 CFR 60.4.

(b) The following information must be reported to the Administrator for each 30 operating day period where you were not in compliance with the emissions standard:

(1) Time period;

(2) NO_x emission rates (lb/ton of acid produced);

(3) Reasons for noncompliance with the emissions standard; and

(4) Description of corrective actions taken.

(c) You must also report the following whenever they occur:

(1) Times when the pollutant concentration exceeded full span of the NO_x pollutant monitoring equipment.

(2) Times when the volumetric flow rate exceeded the high value of the volumetric flow rate monitoring equipment.

(d) You must report any modifications to CERMS which could affect the ability of the CERMS to comply with applicable performance specifications.

(e) Within 60 days of completion of the relative accuracy test audit (RATA) required by this subpart, you must submit the data from that audit to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/SSL/cdx/EPA_Home.asp*). You must submit performance test data in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (*http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods listed on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this paragraph. Mark the compact disk or other commonly used electronic storage media clearly as CBI and mail to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. At the discretion of the delegated authority, you must also submit these reports to the delegated authority in the format specified by the delegated authority. You must submit the other information as required in the performance evaluation as described in § 60.2 and as required in this chapter.

(f) If a malfunction occurred during the reporting period, you must submit a report that contains the following:

(1) 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.

(2) A description of actions taken by an owner or operator during a malfunction of an affected facility to minimize emissions in accordance with § 60.11(d), including actions taken to correct a malfunction.

APPENDIX D

40 CFR Part 60, Subpart H – *Standards of Performance for Sulfuric Acid Plants*

Subpart H—Standards of Performance for Sulfuric Acid Plants

§ 60.80 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each sulfuric acid production unit, which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

§ 60.81 Definitions.

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

(a) *Sulfuric acid production unit* means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) *Acid mist* means sulfuric acid mist, as measured by Method 8 of appendix A to this part or an equivalent or alternative method.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 20794, June 14, 1974]

§ 60.82 Standard for sulfur dioxide.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H_2SO_4.

[39 FR 20794, June 14, 1974]

§ 60.83 Standard for acid mist.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain acid mist, expressed as H_2SO_4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.

(2) Exhibit 10 percent opacity, or greater.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975]

§ 60.84 Emission monitoring.

(a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under §60.13(d), shall be sulfur dioxide (SO_2). Method 8 shall be used for conducting monitoring system performance evaluations under §60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of sulfur dioxide.

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999–AP–13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$CF=k[(1.000-0.015r)/(r-s)]$

where:

CF=conversion factor (kg/metric ton per ppm, lb/ton per ppm).

k=constant derived from material balance. For determining CF in metric units, k=0.0653. For determining CF in English units, k=0.1306.

r=percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Administrator's approval.

s=percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under paragraph (a) of this section.

(c) The owner or operator shall record all conversion factors and values under paragraph (b) of this section from which they were computed (i.e., CF, r, and s).

(d) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2(if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2monitor shall be as specified in paragraph (b) of this section. The span value for CO_2(if required) shall be 10 percent and for O_2shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2emission rate as follows:

$E_s=(C_sS)/[0.265-(0.126\ \%O_2)-(A\ \%CO_2)]$

where:

E_s=emission rate of SO_2, kg/metric ton (lb/ton) of 100 percent of H_2SO_4produced.

C_s=concentration of SO_2, kg/dscm (lb/dscf).

S=acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H_2SO_4produced.

$\%O_2$=oxygen concentration, percent dry basis.

A=auxiliary fuel factor,

=0.00 for no fuel.

=0.0226 for methane.

=0.0217 for natural gas.

=0.0196 for propane.

=0.0172 for No 2 oil.

=0.0161 for No 6 oil.

=0.0148 for coal.

=0.0126 for coke.

$\%CO_2$= carbon dioxide concentration, percent dry basis.

Note: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

From—	To—	Multiply by—
g/scm	kg/scm	10^{-3}
mg/scm	kg/scm	10^{-6}
ppm (SO_2)	kg/scm	2.660×10^{-6}
ppm (SO_2)	lb/scf	1.660×10^{-7}

(e) For the purpose of reports under §60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under §60.82.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975; 48 FR 23611, May 25, 1983; 48 FR 4700, Sept. 29, 1983; 48 FR 48669, Oct. 20, 1983; 54 FR 6666, Feb. 14, 1989; 65 FR 61753, Oct. 17, 2000]

§ 60.85 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). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the SO_2acid mist, and visible emission standards in §§60.82 and 60.83 as follows:

(1) The emission rate (E) of acid mist or SO_2shall be computed for each run using the following equation:

$E=(CQ_{sd})/(PK)$

where:

E=emission rate of acid mist or SO_2kg/metric ton (lb/ton) of 100 percent H_2SO_4produced.

C=concentration of acid mist or SO_2, g/dscm (lb/dscf).

Q_{sd}=volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).

P=production rate of 100 percent H_2SO_4, metric ton/hr (ton/hr).

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO_2concentrations (C's) and the volumetric flow rate (Q_{sd}) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent $H_2SO_4$for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O_2concentration and, if required, CO_2concentration.

(ii) The SO_2or acid mist emission rate is calculated as described in §60.84(d), substituting the acid mist concentration for $C_s$as appropriate.

[54 FR 6666, Feb. 14, 1989]

APPENDIX E

40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:

C_i= concentration of CO or formaldehyde at the control device inlet,

C_o= concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2concentration is measured in lieu of oxygen concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209\,F_d}{F_c} \qquad \text{(Eq. 2)}$$

Where:

F_o= Fuel factor based on the ratio of oxygen volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 3)}$$

Where:

X_{co2}= CO_2correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

(iii) Calculate the $NO_X$and SO_2gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \qquad \text{(Eq. 4)}$$

Where:

$\%CO_2$= Measured CO_2concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101–549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 1ato Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1bto Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using	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

NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and using NSCR.	measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and not using NSCR.	Comply with any operating limitations approved by the Administrator.

[76 FR 12867, Mar. 9, 2011]

Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002	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

	and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]

2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[2]	

	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI	a. Change oil and filter every 1,440 hours of	

RICE <100 HP that are not 2SLB stationary RICE	operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE $100 \leq HP \leq 500$	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2	
10. Non-emergency, non-black start 4SLB stationary RICE $100 \leq HP \leq 500$	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2	
11. Non-emergency, non-black start 4SRB stationary RICE $100 \leq HP \leq 500$	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2	
12. Non-emergency, non-black start landfill or digester gas-fired	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or	

stationary RICE 100≤HP≤500	less at 15 percent O_2	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2dto Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours	

	of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 93 percent or more.	

9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O_2; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE		

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O_2at the inlet and outlet of the control device; and	(1) Portable CO and O_2analyzer	(a) Using ASTM D6522–00 (2005)[a](incorporated by reference, see §63.14). Measurements to determine O_2must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O_2analyzer	(a) Using ASTM D6522–00 (2005)[ab](incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005)	(a) Measurements to determine O_2concentration must be made at the same time as the measurements for formaldehyde

				concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,[c] provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis.

		stationary RICE; or	D6348–03,[c] provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005),[a] Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03	(a) CO Concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.

[b]You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.

[c]You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[75 FR 51597, Aug. 20, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if. . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and

emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the

operated more than 24 hours per calendar year		Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.

7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved

		operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde

source of HAP		or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a] and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a] and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating

		limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and

		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP $\geq$5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 $\leq$HP$\leq$500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 $\leq$HP$\leq$500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and

		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and

		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to

		§63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4) i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the	

		requirements in §63.6650(b).	
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and i. Annually, according to the requirements in §63.6650.	
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and i. See item 2.a.i.	
		c. Any problems or errors suspected with the meters. i. See item 2.a.i.	

[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	

§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.

§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	

§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance	Yes	Except that §63.9(c) only

	extension		applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	

§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i)(C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	

§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

APPENDIX F

40 CFR Part 63, Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Contents

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.

(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 as defined in this subpart.

(k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

(l) Any boiler 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.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]

EDITORIAL NOTE: At 78 FR 7162, Jan. 31, 2013, § 63.7491 was amended by revising paragraph (n). However, there is no paragraph (n) to revise.

§ 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 January 31, 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 on the effective date of the switch from waste to fuel.

(f) If you own or operate an existing EGU that becomes subject to this subpart after January 31, 2013, 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 a exemption in § 63.7491(i) 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.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7162, Jan. 31, 2013]

EDITORIAL NOTE: At 78 FR 7162, Jan. 31, 2013, § 63.7495 was amended by adding paragraph (e). However, there is already a paragraph (e).

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 steam. 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 electricity. 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 (a)(1)(iii) of this section, but on or after January 31, 2016, you must comply with the emission limits in Table 1 to this subpart.

(i) If your boiler or process heater commenced construction or reconstruction after June 4, 2010 and before May 20, 2011, you may comply with the emission limits in Table 1 or 11 to this subpart until January 31, 2016.

(ii) If your boiler or process heater commenced construction or reconstruction after May 20, 2011 and before December 23, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until January 31, 2016.

(iii) If your boiler or process heater commenced construction or reconstruction after December 23, 2011 and before January 31, 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 Table 3 to this subpart.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

§ 63.7501 Affirmative Defense for Violation of Emission Standards During Malfunction.

In response to an action to enforce the standards set forth in § 63.7500 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at § 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in § 63.7500 of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[78 FR 7163, Jan. 31, 2013]

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 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), continuous opacity monitoring system (COMS), continuous parameter monitoring system (CPMS), 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 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 (including 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.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7164, Jan. 31, 2013]

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 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 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 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 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 and establish operating limits according to § 63.7530 and Table 8 to this subpart. The fuels described in paragraph (a)(2)(i) and (ii) of this section are exempt from these fuel analysis and operating limit requirements. The fuels described in paragraph (a)(2)(ii) of this section are exempt from the chloride fuel analysis and operating limit requirements. Boilers and process heaters that use a CEMS for mercury or HCl are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this section for the HAP for which CEMS are used.

(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 12, 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.

(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 demonstration, 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, except as specified in paragraph (j) of this section.

(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 § 63.7540(a) 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 § 63.7540(a).

(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, 2013, 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.

[78 FR 7164, Jan. 31, 2013]

§ 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 the initial startup of the new or reconstructed affected source.

(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.

(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 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).

[78 FR 7165, Jan. 31, 2013]

§ 63.7520 What stack tests and procedures must I use?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific stack test plan according to the requirements in § 63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR part 60, appendix A-7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.

(f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), you must use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7166, Jan. 31, 2013]

§ 63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid and liquid fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, you must also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, you must conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section and Table 6 to this subpart.

(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) At a minimum, you must obtain three 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.

(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. For monthly sampling, each composite sample shall be collected at approximately equal 10-day intervals during the month.

(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.

(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 and submit a site-specific fuel analysis plan for other gas 1 fuels to the EPA Administrator for review and approval 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 notification 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.

(h) You must obtain a single fuel sample for each fuel type according to the sampling procedures listed in Table 6 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.

[78 FR 7167, Jan. 31, 2013]

§ 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 January 31, 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 January 31, 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 operating following the compliance date specified in § 63.7495.

(e) You must demonstrate initial compliance according to paragraph (e)(1) or (2) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis.

(1) You must use Equation 1a or 1b or 1c of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option for that pollutant do not exceed the emission limits in Table 2 to this subpart. Use Equation 1a if you are complying with the emission limits on a heat input basis, use Equation 1b if you are complying with the emission limits on a steam generation (output) basis, and use Equation 1c if you are complying with the emission limits on a electric generation (output) basis.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Hm) \div \sum_{i=1}^{n} Hm \qquad \text{(Eq. 1a)}$$

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Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in § 63.7530(c).

Hm = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times So) \div \sum_{i=1}^{n} So \qquad \text{(Eq. 1b)}$$

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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.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Eo) \div \sum_{i=1}^{n} Eo \qquad \text{(Eq. 1c)}$$

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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.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Sm \times Cfi) \div \sum_{i=1}^{n}(Sm \times Cfi) \qquad \text{(Eq. 2)}$$

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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 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 steam generation for the month if you are complying with the emission limits on a electrical generation (output) basis.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Hb) \div \sum_{i=1}^{n} Hb \qquad \text{(Eq. 3a)}$$

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Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.

Hb = The heat input for that calendar month to unit, i, in units of million Btu.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times So) \div \sum_{i=1}^{n} So \quad \text{(Eq. 3b)}$$

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Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to § 63.7533, use the adjusted emission level for that unit, E_{adj} , determined according to § 63.7533 for that unit.

So = The steam output for that calendar month from unit, i, in units of million Btu, as defined in § 63.7575.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Eo) \div \sum_{i=1}^{n} Eo \quad \text{(Eq. 3c)}$$

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Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour, for that calendar month.

Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to § 63.7533, use the adjusted emission level for that unit, E_{adj} , determined according to § 63.7533 for that unit.

Eo = The electric generating output for that calendar month from unit, i, in units of megawatt hour, as defined in § 63.7575.

n = Number of units participating in the emissions averaging option.

1.1 = Required discount factor.

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 subcategories, 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.

$$En = \sum_{i=1}^{n}(ELi \times Hi) \div \sum_{i=1}^{n} Hi \qquad \text{(Eq. 6)}$$

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Where:

En = HAP emission limit, pounds per million British thermal units (lb/MMBtu), parts per million (ppm), or nanograms per dry standard cubic meter (ng/dscm).

ELi = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu, ppm or ng/dscm.

Hi = Heat input from unit i, MMBtu.

(2) Conduct performance tests according to procedures specified in § 63.7520 in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and

(3) Meet the applicable operating limit specified in § 63.7540 and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack).

(k) The common stack of a group of two or more existing boilers or process heaters in the same subcategories subject to paragraph (h) of this section may be treated as a separate stack for purposes of paragraph (b) of this section and included in an emissions averaging group subject to paragraph (b) of this section.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7168, Jan. 31, 2013]

§ 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 according to the procedures in paragraphs (a)(1) through (7) of this section.

(1) Install the CO CEMS and oxygen analyzer by the compliance date specified in § 63.7495. The CO and oxygen levels shall be monitored at the same location at the outlet of the boiler or process heater.

(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, 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.

(3) Complete a minimum of one cycle of CO and oxygen CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen data concurrently. Collect at least four CO and oxygen 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 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, certify, 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, 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, certify, 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 be capable of detecting and responding to PM concentrations of no greater than 0.5 milligram per actual cubic meter.

(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 you 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) Conduct a performance evaluation of the pH monitoring system in accordance with your monitoring plan at least once each process operating day.

(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 quarterly.

(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 (SO_2) 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 use an SO_2 CEMS, 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 part 75 of this chapter.

(1) The SO_2 CEMS must be installed by the compliance date specified in § 63.7495.

(2) For on-going quality assurance (QA), the SO_2 CEMS must meet 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 SO_2 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 SO_2 data, you must operate the SO_2 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 SO_2 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 SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7171, Jan. 31, 2013]

§ 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)(i). 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 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.

$$Clinput = \sum_{i=1}^{n} (Ci \times Qi) \quad \text{(Eq. 7)}$$

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Where:

Clinput = 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. 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.

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.

$$Mercuryinput = \sum_{i=1}^{n} (HGi \times Qi) \qquad (Eq.\ 8)$$

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Where:

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. 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.

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.

$$TSMinput = \sum_{i=1}^{n} (TSMi \times Qi) \qquad (Eq.\ 9)$$

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Where:

TSMinput = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

TSMi = Arithmetic average concentration of TSM in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM. 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.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(4) You must establish parameter operating limits according to paragraphs (b)(4)(i) through (ix) of this section. As indicated in Table 4 to this subpart, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.

(i) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in § 63.7575, as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests.

(ii) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, you must establish your PM CPMS operating limit and determine compliance with it according to paragraphs (b)(4)(ii)(A) through (F) of this section.

(A) Determine your operating limit as the average PM CPMS output value recorded during the most recent performance test run demonstrating compliance with the filterable PM emission limit or at the PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. You must verify an existing or establish a new operating limit after each repeated performance test. You must repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

(*1*) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps.

(*2*) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit.

(*3*) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs).

(B) If the average of your three PM performance test runs are below 75 percent of your PM emission limit, you must calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in paragraphs (b)(4)(ii)(B)(*1*) through (*4*) of this section.

(*1*) Determine your instrument zero output with one of the following procedures:

(*i*) Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench.

(*ii*) Zero point data for *extractive* instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air.

(*iii*) The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (e.g., when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept.

(*iv*) If none of the steps in paragraphs (b)(4)(ii)(B)(*1*)(*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.

$$\bar{X} = \frac{1}{n}\sum_{i=1}^{n} X_i, \bar{Y} = \frac{1}{n}\sum_{i=1}^{n} Y_i \qquad \text{(Eq. 10)}$$

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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.

$$R = \frac{Y_1}{(X_1 - z)} \qquad \text{(Eq. 11)}$$

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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 you 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.

$$O_l = z + \frac{0.75(L)}{R} \qquad \text{(Eq. 12)}$$

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Where:

O_l = 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.

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_i \qquad \text{(Eq. 13)}$$

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Where:

X_i = 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.

$$30\text{-day} = \frac{\sum_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 14)}$$

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Where:

30-day = 30-day average.

Hpvi = is the hourly parameter value for hour i

n = is the number of valid hourly parameter values collected over the previous 720 operating hours.

(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.

(iii) 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.)

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(viii) 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.

$$P90 = mean + (SD \times t) \quad \text{(Eq. 15)}$$

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Where:

P90 = 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 HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 16 of this section must not exceed the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^{n} (Ci90 \times Qi \times 1.028) \quad \text{(Eq. 16)}$$

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Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 11 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.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 17 of this section must not exceed the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n} (Hgi90 \times Qi) \quad \text{(Eq. 17)}$$

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Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

Hgi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.

Qi = Fraction of total heat input from fuel type, i, 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 Qi.

n = 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.

$$Metals = \sum_{i=1}^{n} (TSM90i \times Qi) \quad \text{(Eq. 18)}$$

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Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

TSMi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.

Qi = Fraction of total heat input from fuel type, i, 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 Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest TSM content.

(d) If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit.

(e) You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of your facility at the time of the assessment.

(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 item 5 of Table 3 of this subpart.

(i) If you opt to comply with the alternative SO_2 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 SO_2 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 SO_2 operating limit by collecting the minimum hourly SO_2 emission rate on the SO_2 CEMS during the paired 3-run test for HCl. The maximum SO_2 operating limit is equal to the highest hourly average SO_2 concentration measured during the most recent HCl performance test.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7174, Jan. 31, 2013]

§ 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

(a) If you elect to comply with the alternative equivalent output-based emission limits, instead of the heat input-based limits listed in Table 2 to this subpart, and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using efficiency credits according to the procedures in this section. You may use this compliance approach for an existing affected boiler for demonstrating initial compliance according to § 63.7522(e) and for demonstrating monthly compliance according to § 63.7522(f). Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the efficiency credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the efficiency credit according to the procedures in paragraphs (b) through (f) of this section. You cannot use this compliance approach for a new or reconstructed affected boiler. Additional guidance from the Department of Energy on efficiency credits is available at: *http://www.epa.gov/ttn/atw/boiler/boilerpg.html* .

(b) For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (*i.e.,* fuel usage) according to paragraphs (b)(1) through (4) of this section. The benchmark shall be expressed in trillion Btu per year heat input.

(1) The benchmark from which efficiency credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

(2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.).

(3) Document all uses of energy from the affected boiler. Use the most recent data available.

(4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. If possible, use actual data that are current and timely rather than estimated data.

(c) Efficiency credits can be generated if the energy conservation measures were implemented after January 1, 2008 and if sufficient information is available to determine the appropriate value of credits.

(1) The following emission points cannot be used to generate efficiency credits:

(i) Energy conservation measures implemented on or before January 1, 2008, unless the level of energy demand reduction is increased after January 1, 2008, in which case credit will be allowed only for change in demand reduction achieved after January 1, 2008.

(ii) Efficiency credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to energy conservation measures identified in the energy assessment. In this case, the bench established for the affected boiler to which the credits from the shutdown will be applied must be revised to include the benchmark established for the shutdown boiler.

(2) For all points included in calculating emissions credits, the owner or operator shall:

(i) Calculate annual credits for all energy demand points. Use Equation 19 to calculate credits. Energy conservation measures that meet the criteria of paragraph (c)(1) of this section shall not be included, except as specified in paragraph (c)(1)(i) of this section.

(3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 1, 2008. Credits shall be calculated using Equation 19 of this section as follows:

(i) The overall equation for calculating credits is:

$$ECredits = \left(\sum_{i=1}^{n} EIS_{iactual}\right) \div EI_{baseline} \quad \text{(Eq. 19)}$$

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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.

$EIS_{iactual}$ = Energy Input Savings for each energy conservation measure, i, implemented for an affected boiler, million Btu per year.

$EI_{baseline}$ = 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 operating, 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.

$$E_{adj} = E_m \times (1 - ECredits) \quad \text{(Eq. 20)}$$

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Where:

E_{adj} = Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.

E_m = Emissions measured during the performance test, lb per million Btu steam output (or lb per MWh) for the affected boiler.

ECredits = Efficiency credits from Equation 19 for the affected boiler.

(g) As part of each compliance report submitted as required under § 63.7550, you must include documentation that the energy conservation measures implemented continue to generate the credit for use in demonstrating compliance with the emission limits.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7178, Jan. 31, 2013]

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 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 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 annual report.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7179, Jan. 31, 2013]

§ 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 § 63.7550(c), 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) Lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis.

(ii) 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 12 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 12 of § 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 7 of § 63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of § 63.7530 are greater than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(b). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in § 63.7510(a)(2)(i) through (iii).

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 13 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 13 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 operating.

(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. 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 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 NO_x 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, an annual 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.

(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 the maximum of 30 unit operating days or 720 hours. 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 the maximum of 30 unit operating days or 720 hours. 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 14 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 14 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, updated at the end of each new boiler or process heater operating hour.

(ii) For any deviation of the 30-day rolling PM CPMS average value from the established operating parameter limit, you must:

(A) Within 48 hours of the deviation, visually inspect the air pollution control device (APCD);

(B) If inspection of the APCD identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and

(C) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph.

(iii) PM CPMS deviations from the operating limit leading to more than four required performance tests in a 12-month operating period constitute a separate violation of this subpart.

(19) If you choose to comply with the PM filterable emissions limit by using PM CEMS you must install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (a)(19)(i) through (vii) of this section. The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for your unit in Tables 1 or 2 or 11 through 13 of this subpart.

(i) Install and certify your PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using test criteria outlined in Table V of this rule. The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (e.g., lb/MMBtu, lb/MWh).

(ii) Operate and maintain your PM CEMS according to the procedures and requirements in Procedure 2— Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter.

(A) You must conduct the relative response audit (RRA) for your PM CEMS at least once annually.

(B) You must conduct the relative correlation audit (RCA) for your PM CEMS at least once every 3 years.

(iii) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) 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 item 5 of Table 3 of this subpart.

[78 FR 7179, Jan. 31, 2013]

§ 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), 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).

(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,

(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 complies with the required initial tune-up 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 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.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7183, Jan. 31, 2013]

§ 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 an annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or 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 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 July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in § 63.7495.

(2) The first 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 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 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.

(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 a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section.

(2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section.

(3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section.

(4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), 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 12 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 13 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, you must submit the calculation of TSM input, using Equation 9 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate, using Equation 14 of § 63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(ix) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of § 63.7530 or the maximum mercury input operating limit using Equation 8 of § 63.7530, or the maximum TSM input operating limit using Equation 9 of § 63.7530 you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(x) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§ 63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§ 63.7521(f) and 63.7530(g).

(xi) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(xii) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(xiii) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with § 63.7500(a)(3), including actions taken to correct the malfunction.

(xiv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to § 63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

(xv) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in § 63.7545(e)(5)(i).

(xvi) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) 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.

(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, 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 or operating limit 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 (defined in § 63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in § 63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, you must also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator.

(2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) you must submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator.

(3) You must submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the 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 report you must submit the report to the Administrator at the appropriate address listed in § 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator.

[78 FR 7183, Jan. 31, 2013]

§ 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).

(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) 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.

(4) 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 12 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.

(5) 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 13 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.

(6) 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.

(7) 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.

(8) 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.

(9) 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 14 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.

(10) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(11) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

(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.

(i) You must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown.

(j) You must maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7185, Jan. 31, 2013]

§ 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 (5) 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 non-opacity emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g).

(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).

(3) 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).

(4) 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).

(5) Approval of major change to recordkeeping and reporting under § 63.10(e) and as defined in § 63.90.

[76 FR 15664, Mar. 21, 2011 as amended at 78 FR 7186, Jan. 31, 2013]

§ 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 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 720 hours should be consecutive, but not necessarily continuous if operations were intermittent.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

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.

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 for Testing and Materials in ASTM D975 (incorporated by reference, see § 63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see § 60.14).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

Dutch oven means a unit having a refractory-walled cell connected to a conventional boiler setting. Fuel materials are introduced through an opening in the roof of the dutch oven and burn in a pile on its floor. Fluidized bed boilers are not part of the dutch oven design category.

Efficiency credit means emission reductions above those required by this subpart. Efficiency credits generated may be used to comply with the emissions limits. Credits may come from pollution prevention projects that result in reduced fuel use by affected units. Boilers that are shut down cannot be used to generate credits unless the facility provides documentation linking the permanent shutdown to implementation of the energy conservation measures identified in the energy assessment.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MWe output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be "capable of combusting" fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2012.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers and process heaters with a combined heat input capacity of less than 0.3 trillion Btu (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) 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) 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.

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. 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 average 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, vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

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).

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, 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 C_3H_8.

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.

Other combustor means a unit designed to burn solid fuel that is not classified as a dutch oven, fluidized bed, fuel cell, hybrid suspension grate boiler, pulverized coal boiler, stoker, sloped grate, or suspension boiler as defined in this subpart.

Other gas 1 fuel means a gaseous fuel that is not natural gas or refinery gas and does not exceed a maximum concentration of 40 micrograms/cubic meters of mercury.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler or process heater flue gas, boiler or process heater, firebox, or other appropriate location. This definition includes oxygen trim systems. The source owner or operator must install, calibrate, maintain, and operate the oxygen analyzer system in accordance with the manufacturer's recommendations.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air 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.

Secondary material means the material as defined in § 241.2 of this chapter.

Shutdown means the cessation of operation of a boiler or process heater for any purpose. Shutdown begins either when none of the steam from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler or process heater, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired 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 either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying steam or heat 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 steam or heat from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose.

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 calculated using Equations 21 through 25 of this section, as appropriate:

(i) For emission limits for boilers in the unit designed to burn solid fuel subcategory use Equation 21 of this section:

$$EL_{CBE} = EL_T \times 12.7 \text{ MMBtu/Mwh} \quad \text{(Eq. 21)}$$

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Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(ii) For PM and CO emission limits for boilers in one of the subcategories of units designed to burn coal use Equation 22 of this section:

$$EL_{CBE} = EL_T \times 12.2 \text{ MMBtu/Mwh} \quad \text{(Eq. 22)}$$

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Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(iii) For PM and CO emission limits for boilers in one of the subcategories of units designed to burn biomass use Equation 23 of this section:

$$EL_{CBE} = EL_T \times 13.9 \text{ MMBtu/Mwh} \quad \text{(Eq. 23)}$$

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Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(iv) For emission limits for boilers in one of the subcategories of units designed to burn liquid fuels use Equation 24 of this section:

$$EL_{CBE} = EL_T \times 13.8 \text{ MMBtu/Mwh} \quad \text{(Eq. 24)}$$

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Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

(v) For emission limits for boilers in the unit designed to burn gas 2 (other) subcategory, use Equation 25 of this section:

$$EL_{CBE} = EL_T \times 10.4 \text{ MMBtu/Mwh} \quad \text{(Eq. 25)}$$

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Where:

EL_{OBE} = Emission limit in units of pounds per megawatt-hour.

EL_T = Appropriate emission limit from Table 1 or 2 of this subpart in units of pounds per million Btu heat input.

Stoker means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: Underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers. Fluidized bed, dutch oven, pile burner, hybrid suspension grate, suspension burners, and fuel cells are not considered to be a stoker design.

Stoker/sloped grate/other unit designed to burn kiln dried biomass means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and is not in the stoker/sloped grate/other units designed to burn wet biomass subcategory.

Stoker/sloped grate/other unit designed to burn wet biomass means the unit is in the units designed to burn biomass/bio-based solid subcategory that is either a stoker, sloped grate, or other combustor design and any of the biomass/bio-based solid fuel combusted in the unit exceeds 20 percent moisture on an annual heat input basis.

Suspension burner means a unit designed to fire dry biomass/biobased solid particles in suspension that are conveyed in an airstream to the furnace like pulverized coal. The combustion of the fuel material is completed on a grate or floor below. The biomass/biobased fuel combusted in the unit shall not exceed 20 percent moisture on an annual heat input basis. Fluidized bed, dutch oven, pile burner, and hybrid suspension grate units are not part of the suspension burner subcategory.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location 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, 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.

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*), 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*), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, *http://www.bsigroup.com*), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, *http://www.csa.ca*), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, *http://www.cen.eu/cen*), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, *http://www.vdi.eu*). The types of standards that are not considered VCS are standards developed by: The United States, *e.g.,* California (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.

[78 FR 15664, Mar. 21, 2011, as amended at 78 FR 7163, Jan. 31, 2013]

Table 1 to Subpart DDDDD of Part 63—Emission Limits for New or Reconstructed Boilers and Process Heaters

As stated in § 63.7500, you must comply with the following applicable emission limits:

[Units with heat input capacity of 10 million Btu per hour or greater]

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 . . .
1. Units in all subcategories designed to burn solid fuel.	a. HCl	2.2E-02 lb per MMBtu of heat input	2.5E-02 lb per MMBtu of steam output or 0.28 lb per MWh	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 120 liters per run.
	b. Mercury	8.0E-07 [a]lb per MMBtu of heat input	8.7E-07 [a]lb per MMBtu of steam output or 1.1E-05 [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 D6784 [b]collect a minimum of 4 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)	1.1E-03 lb per MMBtu of steam output or 1.4E-02 lb per MWh; or (2.7E-05 lb per MMBtu of steam output or 2.9E-04 lb per MWh)	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, 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run 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	0.12 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.

		oxygen, 30-day rolling average)		
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, 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run 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, 30-day rolling average)	1.2E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run 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, 30-day rolling average)	5.8E-01 lb per MMBtu of steam output or 6.8 lb per MWh; 3-run 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)	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)	Collect a minimum of 2 dscm per run.
8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel	a. CO	460 ppm by volume on a dry basis corrected to 3 percent oxygen	4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.0E-02 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)	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)	Collect a minimum of 2 dscm per run.
9. Fluidized bed units designed to burn biomass/bio-based solids	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent	2.2E-01 lb per MMBtu of steam output or 2.6 lb per MWh; 3-run average	1 hr minimum sampling time.

		oxygen, 30-day rolling average)		
	b. Filterable PM (or TSM)	9.8E-03 lb per MMBtu of heat input; or (8.3E-05 [a]lb per MMBtu of heat input)	1.2E-02 lb per MMBtu of steam output or 0.14 lb per MWh; or (1.1E-04 [a]lb per MMBtu of steam output or 1.2E-03 [a]lb per MWh)	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)	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run 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)	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)	Collect a minimum of 2 dscm per run.
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	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)	3.5E-01 lb per MMBtu of steam output or 3.6 lb per MWh; 3-run 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)	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)	Collect a minimum of 3 dscm per run.
12. Fuel cell units designed to burn biomass/bio-based solids	a. CO	910 ppm by volume on a dry basis corrected to 3 percent oxygen	1.1 lb per MMBtu of steam output or 1.0E+01 lb per MWh	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.0E-02 lb per MMBtu of heat input; or (2.9E-05 [a]lb per MMBtu of heat input)	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)	Collect a minimum of 2 dscm per run.

13. Hybrid suspension grate boiler designed to burn biomass/bio-based solids	a. CO (or CEMS)	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	1.4 lb per MMBtu of steam output or 12 lb per MWh; 3-run 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)	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)	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	4.8E-04 lb per MMBtu of steam output or 6.1E-03 lb per MWh	For M26A: Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	b. Mercury	4.8E-07 [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 D6784 [b]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.
	c. Mercury	7.9E-06 lb per MMBtu of heat input	1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh	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.
	d. Filterable PM (or TSM)	6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)	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)	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 provisions of § 63.7515 are met. For all other pollutants that do not contain a footnote "a", your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see § 63.14.

[c] If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before January 31, 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.

[78 FR 7193, Jan. 31, 2013]

Table 2 to Subpart DDDDD 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]

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 . . .	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 . . .
1. Units in all subcategories designed to burn solid fuel	a. HCl	2.2E-02 lb per MMBtu of heat input	2.5E-02 lb per MMBtu of steam output or 0.27 lb per MWh	For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run.
	b. Mercury	5.7E-06 lb per MMBtu of heat input	6.4E-06 lb per MMBtu of steam output or 7.3E-05 lb per MWh	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 design to burn coal/solid fossil fuel	a. Filterable PM (or TSM)	4.0E-02 lb per MMBtu of heat input; or (5.3E-05 lb per MMBtu of heat input)	4.2E-02 lb per MMBtu of steam output or 4.9E-01 lb per MWh; or (5.6E-05 lb per MMBtu of steam output or 6.5E-04 lb per MWh)	Collect a minimum of 2 dscm per run.
3. Pulverized coal boilers 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 (320 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	0.11 lb per MMBtu of steam output or 1.4 lb per MWh; 3-run average	1 hr minimum sampling time.
4. Stokers designed to burn coal/solid fossil fuel	a. CO (or CEMS)	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)	0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average	1 hr minimum sampling time.
5. Fluidized bed units	a. CO (or	130 ppm by volume on a	0.12 lb per MMBtu of	1 hr minimum sampling

designed to burn coal/solid fossil fuel	CEMS)	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)	steam output or 1.4 lb per MWh; 3-run average	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, 30-day rolling average)	1.3E-01 lb per MMBtu of steam output or 1.5 lb per MWh; 3-run average	1 hr minimum sampling time.
7. Stokers/sloped grate/others designed to burn wet biomass fuel	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)	1.4 lb per MMBtu of steam output or 17 lb per MWh; 3-run average	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.7E-02 lb per MMBtu of heat input; or (2.4E-04 lb per MMBtu of heat input)	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)	Collect a minimum of 2 dscm per run.
8. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel	a. CO	460 ppm by volume on a dry basis corrected to 3 percent oxygen	4.2E-01 lb per MMBtu of steam output or 5.1 lb per MWh	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)	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)	Collect a minimum of 1 dscm per run.
9. Fluidized bed units designed to burn biomass/bio-based solid	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)	4.6E-01 lb per MMBtu of steam output or 5.2 lb per MWh; 3-run average	1 hr minimum sampling time.
	b. Filterable PM (or	1.1E-01 lb per MMBtu of heat input; or (1.2E-03 lb	1.4E-01 lb per MMBtu of steam	Collect a minimum of 1 dscm per run.

	TSM)	per MMBtu of heat input)	output or 1.6 lb per MWh; or (1.5E-03 lb per MMBtu of steam output or 1.7E-02 lb per MWh)	
10. Suspension burners designed to burn biomass/bio-based solid	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)	1.9 lb per MMBtu of steam output or 27 lb per MWh; 3-run average	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)	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)	Collect a minimum of 2 dscm per run.
11. Dutch Ovens/Pile burners designed to burn biomass/bio-based solid	a. CO (or CEMS)	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)	8.4E-01 lb per MMBtu of steam output or 8.4 lb per MWh; 3-run average	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.8E-01 lb per MMBtu of heat input; or (2.0E-03 lb per MMBtu of heat input)	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)	Collect a minimum of 1 dscm per run.
12. Fuel cell units designed to burn biomass/bio-based solid	a. CO	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen	2.4 lb per MMBtu of steam output or 12 lb per MWh	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.0E-02 lb per MMBtu of heat input; or (5.8E-03 lb per MMBtu of heat input)	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)	Collect a minimum of 2 dscm per run.
13. Hybrid suspension grate units designed to burn biomass/bio-based solid	a. CO (or CEMS)	2,800 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis	2.8 lb per MMBtu of steam output or 31 lb per MWh; 3-run average	1 hr minimum sampling time.

		corrected to 3 percent oxygen, 30-day rolling average)		
	b. Filterable PM (or TSM)	4.4E-01 lb per MMBtu of heat input; or (4.5E-04 lb per MMBtu of heat input)	5.5E-01 lb per MMBtu of steam output or 6.2 lb per MWh; or (5.7E-04 lb per MMBtu of steam output or 6.3E-03 lb per MWh)	Collect a minimum of 1 dscm per run.
14. Units designed to burn liquid fuel	a. HCl	1.1E-03 lb per MMBtu of heat input	1.4E-03 lb per MMBtu of steam output or 1.6E-02 lb per MWh	For M26A, collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	b. Mercury	2.0E-06 lb per MMBtu of heat input	2.5E-06 lb per MMBtu of steam output or 2.8E-05 lb per MWh	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 2 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)	6.2E-02 lb per MMBtu of heat input; or (2.0E-04 lb per MMBtu of heat input)	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)	Collect a minimum of 1 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)	7.9E-03 lb per MMBtu of heat input; or (6.2E-05 lb per MMBtu of heat input)	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)	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)	2.7E-01 lb per MMBtu of heat input; or (8.6E-04 lb per MMBtu of heat input)	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)	Collect a minimum of 2 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.
	c. Mercury	7.9E-06 lb per MMBtu of heat input	1.4E-05 lb per MMBtu of steam output or 8.3E-05 lb per MWh	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 2 dscm.
	d. Filterable PM (or TSM)	6.7E-03 lb per MMBtu of heat input or (2.1E-04 lb per MMBtu of heat input)	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)	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 provisions of § 63.7515 are met. For all other pollutants that do not contain a footnote a, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing.

[b] Incorporated by reference, see § 63.14.

[78 FR 7195, Jan. 31, 2013]

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards

As stated in § 63.7500, you must comply with the following applicable work practice standards:

If your unit is . . .	You must meet the following . . .
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	Conduct a tune-up of the boiler or process heater every 5 years as specified in § 63.7540.

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	
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	Conduct a tune-up of the boiler or process heater biennially as specified in § 63.7540.
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	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.
4. An existing boiler or process heater located at a major source facility, not including limited use units	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 operates under an energy management program compatible with ISO 50001 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:
	a. A visual inspection of the boiler or process heater system.
	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.
	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.
	d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
	e. A review of the facility's energy management practices and provide recommendations for

	improvements consistent with the definition of energy management practices, if identified.
	f. A list of cost-effective energy conservation measures that are within the facility's control.
	g. A list of the energy savings potential of the energy conservation measures identified.
	h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup	You must operate all CMS during startup. 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, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, and liquefied petroleum gas.
	If you start firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases, 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, selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, SNCR, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose.
	You must comply with all applicable emission limits at all times except for startup or shutdown periods conforming with 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.
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 coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases 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, SNCR, and SCR.
	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.

[78 FR 7198, Jan. 31, 2013]

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:

When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using . . .	You must meet these operating limits . . .
1. Wet PM scrubber control on a boiler not using a PM CPMS	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 most recent performance test demonstrating compliance with the PM emission limitation according to § 63.7530(b) and Table 7 to this subpart.
2. Wet acid gas (HCl) scrubber control on a boiler not using a HCl CEMS	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 most recent performance test demonstrating compliance with the HCl emission limitation according to § 63.7530(b) and Table 7 to this subpart.
3. Fabric filter control on units not using a PM CPMS	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); or
	b. Install and operate a bag leak detection system according to § 63.7525 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.
4. Electrostatic precipitator control on units not using a PM CPMS	a. This option is for boilers and process heaters that operate dry control systems (i.e., an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average); or
	b. This option is only for boilers and process heaters not subject to PM CPMS or continuous compliance with an opacity limit (i.e., COMS). 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.
5. Dry scrubber or carbon injection control on a boiler not using a mercury CEMS	Maintain the minimum sorbent or carbon injection rate as defined in § 63.7575 of this subpart.
6. Any other add-on air pollution control type on units not using a PM CPMS	This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average).
7. Fuel analysis	Maintain the fuel type or fuel mixture such that the applicable emission rates

	calculated according to § 63.7530(c)(1), (2) and/or (3) is less than the applicable emission limits.
8. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test.
9. Oxygen analyzer system	For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O_2analyzer 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 most recent 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).
10. SO_2CEMS	For boilers or process heaters subject to an HCl emission limit that demonstrate compliance with an SO_2CEMS, maintain the 30-day rolling average SO_2emission rate at or below the highest hourly average SO_2concentration measured during the most recent HCl performance test, as specified in Table 8.

[78 FR 7199, Jan. 31, 2013]

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:

To conduct a performance test for the following pollutant...	You must...	Using...
1. Filterable PM	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 to part 60 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the PM emission concentration	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.
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.

2. TSM	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the TSM emission concentration	Method 29 at 40 CFR part 60, appendix A-8 of this chapter
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
3. Hydrogen chloride	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-2 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the hydrogen chloride emission concentration	Method 26 or 26A (M26 or M26A) at 40 CFR part 60, appendix A-8 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
4. Mercury	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]

	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the mercury emission concentration	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784.[a]
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
5. CO	a. Select the sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine oxygen concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-3 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.[a]
	c. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	d. Measure the CO emission concentration	Method 10 at 40 CFR part 60, appendix A-4 of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7200, Jan. 31, 2013]

Table 6 to Subpart DDDDD 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:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192 [a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a](for coal) or EPA 1631 or EPA 1631E or ASTM D6323 [a](for solid), or EPA 821-R-01-013 (for liquid or solid), or ASTM D4177 [a](for liquid), or ASTM D4057 [a](for liquid), or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B [a](for solid samples), EPA SW-846-3020A [a](for liquid samples), ASTM D2013/D2013M [a](for coal), ASTM D5198 [a](for biomass), or EPA 3050 [a](for solid fuel), or EPA 821-R-01-013 [a](for liquid or solid), or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a](for coal) or ASTM E711 [a](for biomass), or ASTM D5864 [a]for liquids and other solids, or ASTM

		D240 [a]or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a], ASTM E871 [a], or ASTM D5864 [a], or ASTM D240, or ASTM D95 [a](for liquid fuels), or ASTM D4006 [a](for liquid fuels), or ASTM D4177 [a](for liquid fuels) or ASTM D4057 [a](for liquid fuels), or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722 [a](for coal), EPA SW-846-7471B [a](for solid samples), or EPA SW-846-7470A [a](for liquid samples), or equivalent.
	g. Convert concentration into units of pounds of mercury per MMBtu of heat content	Equation 8 in § 63.7530.
	h. Calculate the mercury emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 12 in § 63.7530.
2. HCl	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192 [a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a](for coal) or ASTM D6323 [a](for coal or biomass), ASTM D4177 [a](for liquid fuels) or ASTM D4057 [a](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 [a](for solid samples), EPA SW-846-3020A [a](for liquid samples), ASTM D2013/D2013M§[a](for coal), or ASTM D5198§[a](for biomass), or EPA 3050 [a]or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a](for coal) or ASTM E711 [a](for biomass), ASTM D5864, ASTM D240 [a]or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a]or ASTM E871 [a], or D5864 [a], or ASTM D240 [a], or ASTM D95[a](for liquid fuels), or ASTM D4006 [a](for liquid fuels), or ASTM D4177 [a](for liquid fuels) or ASTM D4057 [a](for liquid fuels) or equivalent.
	f. Measure chlorine concentration in fuel sample	EPA SW-846-9250 [a], ASTM D6721 [a], ASTM D4208 [a](for coal), or EPA SW-846-5050 [a]or ASTM E776 [a](for solid fuel), or EPA SW-846-9056 [a]or SW-846-9076 [a](for solids or liquids) or equivalent.
	g. Convert concentrations into units of pounds of HCl per MMBtu of heat content	Equation 7 in § 63.7530.
	h. Calculate the HCl emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 11 in § 63.7530.
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	Method 30B (M30B) at 40 CFR part 60, appendix A-8 of this chapter or ASTM D5954 [a], ASTM D6350 [a], ISO 6978-1:2003(E) [a], or ISO 6978-2:2003(E) [a], or EPA-1631 [a]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 [a]or equivalent.
4. TSM for solid fuels	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D5192 [a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a](for coal) or ASTM D6323 [a](for coal or biomass), or ASTM D4177 [a],(for liquid fuels)or ASTM D4057 [a](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 [a](for solid samples), EPA SW-846-3020A [a](for liquid samples), ASTM D2013/D2013M [a](for coal), ASTM D5198 [a]or TAPPI T266 [a](for biomass), or EPA 3050 [a]or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a](for coal) or ASTM E711 [a](for biomass), or ASTM D5864 [a]for liquids and other solids, or ASTM D240 [a]or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a]or ASTM E871 [a], or D5864, or ASTM D240 [a], or ASTM D95 [a](for liquid fuels), or ASTM D4006[a](for liquid fuels), or ASTM D4177 [a](for liquid fuels) or ASTM D4057 [a](for liquid fuels), or equivalent.
	f. Measure TSM concentration in fuel sample	ASTM D3683 [a], or ASTM D4606 [a], or ASTM D6357 [a]or EPA 200.8 [a]or EPA SW-846-6020 [a], or EPA SW-846-6020A [a], or EPA SW-846-6010C [a], EPA 7060 [a]or EPA 7060A [a](for arsenic only), or EPA SW-846-7740 [a](for selenium only).
	g. Convert concentrations into units of pounds of TSM per MMBtu of heat content	Equation 9 in § 63.7530.
	h. Calculate the TSM emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 13 in § 63.7530.

[a] Incorporated by reference, see § 63.14.

[78 FR 7201, Jan. 31, 2013]

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:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements

1. PM, TSM, or mercury	a. Wet scrubber operating parameters	i. Establish a site-specific minimum scrubber pressure drop and minimum flow rate operating limit according to § 63.7530(b)	(1) Data from the scrubber pressure drop and liquid flow rate monitors and the PM or mercury performance test	(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.
	b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers)	i. Establish a site-specific minimum total secondary electric power input according to § 63.7530(b)	(1) Data from the voltage and secondary amperage monitors during the PM or mercury performance test	(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.
2. HCl	a. Wet scrubber operating parameters	i. Establish site-specific minimum pressure drop, effluent pH, and flow rate operating limits according to § 63.7530(b)	(1) Data from the pressure drop, pH, and liquid flow-rate monitors and the HCl performance test	(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Dry scrubber operating parameters	i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(b). If different acid gas sorbents are	(1) Data from the sorbent injection rate monitors and HCl or mercury performance test	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests.

		used during the HCl performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent		
				(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 (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
	c. Alternative Maximum SO_2emission rate	i. Establish a site-specific maximum SO_2emission rate operating limit according to § 63.7530(b)	(1) Data from SO_2CEMS and the HCl performance test	(a) You must collect the SO_2emissions data according to § 63.7525(m) during the most recent HCl performance tests.
				(b) The maximum SO_2emission rate is equal to the lowest hourly average SO_2emission rate measured during the most recent HCl performance tests.
3. Mercury	a. Activated carbon injection	i. Establish a site-specific minimum activated carbon injection rate operating limit according to § 63.7530(b)	(1) Data from the activated carbon rate monitors and mercury performance test	(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest

				hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
4. Carbon monoxide	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to § 63.7520	(1) Data from the oxygen analyzer system specified in § 63.7525(a)	(a) You must collect oxygen data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test	a. Boiler or process heater operating load	i. Establish a unit specific limit for maximum operating load according to § 63.7520(c)	(1) Data from the operating load monitors or from steam generation monitors	(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test.
				(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7203, Jan. 31, 2013]

Table 8 to Subpart DDDDD of Part 63—Demonstrating Continuous Compliance

As stated in § 63.7540, you must show continuous compliance with the emission limitations for each boiler or process heater according to the following:

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to § 63.7525(c) and § 63.7535; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. PM CPMS	a. Collecting the PM CPMS output data according to § 63.7525;
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average PM CPMS output data to less than the operating limit established during the performance test according to § 63.7530(b)(4).
3. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(9) are met.
4. Wet Scrubber Pressure Drop and Liquid Flow-rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.7525 and 63.7535; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.7530(b).
5. Wet Scrubber pH	a. Collecting the pH monitoring system data according to §§ 63.7525 and 63.7535; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average pH at or above the operating limit established during the performance test according to § 63.7530(b).
6. Dry Scrubber Sorbent or Carbon Injection Rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in § 63.7575.
7. Electrostatic Precipitator Total Secondary Electric Power Input	a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and
	b. Reducing the data to 30-day rolling averages; and

	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.
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)(2).
	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 most recent CO performance test.
10. Boiler or process heater operating load	a. Collecting operating load data or steam generation data every 15 minutes.
	b. Maintaining the operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test according to § 63.7520(c).
11. SO_2emissions using SO_2CEMS	a. Collecting the SO_2CEMS output data according to § 63.7525;
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average SO_2CEMS emission rate to a level at or below the minimum hourly SO_2rate measured during the most recent HCl performance test according to § 63.7530.

[78 FR 7204, Jan. 31, 2013]

Table 9 to Subpart DDDDD of Part 63—Reporting Requirements

As stated in § 63.7550, you must comply with the following requirements for reports:

You must submit a(n)	**The report must contain . . .**	**You must submit the report . . .**
1. Compliance report	a. Information required in § 63.7550(c)(1) through (5); and	Semiannually, annually, biennially, or every 5 years according to the requirements in § 63.7550(b).
	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 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 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)	

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7205, Jan. 31, 2013]

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:

Citation	Subject	Applies to subpart DDDDD
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in § 63.7575
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements	Yes.
§ 63.6(a), (b)(1)-(b)(5), (b)(7), (c)	Compliance with Standards and Maintenance Requirements	Yes.
§ 63.6(e)(1)(i)	General duty to minimize emissions.	No. See § 63.7500(a)(3) for the general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as practicable.	No.
§ 63.6(e)(3)	Startup, shutdown, and	No.

	malfunction plan requirements.	
§ 63.6(f)(1)	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.	No.
§ 63.6(f)(2) and (3)	Compliance with non-opacity emission standards.	Yes.
§ 63.6(g)	Use of alternative standards	Yes.
§ 63.6(h)(1)	Startup, shutdown, and malfunction exemptions to opacity standards.	No. See § 63.7500(a).
§ 63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	Yes.
§ 63.6(i)	Extension of compliance	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.
§ 63.6(j)	Presidential exemption.	Yes.
§ 63.7(a), (b), (c), and (d)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Conditions for conducting performance tests	No. Subpart DDDDD specifies conditions for conducting performance tests at § 63.7520(a) to (c).
§ 63.7(e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
§ 63.8(a) and (b)	Applicability and Conduct of Monitoring	Yes.
§ 63.8(c)(1)	Operation and maintenance of CMS	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See § 63.7500(a)(3).
§ 63.8(c)(1)(ii)	Operation and maintenance of CMS	Yes.
§ 63.8(c)(1)(iii)	Startup, shutdown, and malfunction plans for CMS	No.
§ 63.8(c)(2) to (c)(9)	Operation and maintenance of CMS	Yes.

§ 63.8(d)(1) and (2)	Monitoring Requirements, Quality Control Program	Yes.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
§ 63.8(e)	Performance evaluation of a CMS	Yes.
§ 63.8(f)	Use of an alternative monitoring method.	Yes.
§ 63.8(g)	Reduction of monitoring data	Yes.
§ 63.9	Notification Requirements	Yes.
§ 63.10(a), (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	Yes.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§ 63.10(b)(2)(iii)	Maintenance records	Yes.
§ 63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during startup, shutdown, or malfunction	No.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§ 63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.
§ 63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(10) and (11)	Recording nature and cause of malfunctions, and corrective actions	No. See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(15)	Use of startup, shutdown, and malfunction plan	No.

§ 63.10(d)(1) and (2)	General reporting requirements	Yes.
§ 63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§ 63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports	No. See § 63.7550(c)(11) for malfunction reporting requirements.
§ 63.10(e)	Additional reporting requirements for sources with CMS	Yes.
§ 63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.
§ 63.11	Control Device Requirements	No.
§ 63.12	State Authority and Delegation	Yes.
§ 63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
§ 63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved	No.

[76 FR 15664, Mar. 21, 2011, as amended at 78 FR 7205, Jan. 31, 2013]

Table 11 to Subpart DDDDD of Part 63—Toxic Equivalency Factors for Dioxins/Furans

TABLE 11 TO SUBPART DDDDD OF PART 63—TOXIC EQUIVALENCY FACTORS FOR DIOXINS/FURANS

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.0003

2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.0003

[76 FR 15664, Mar. 21, 2011]

EDITORIAL NOTE: At 78 FR 7206, Jan. 31, 2013, Table 11 was added, effective Apr. 1, 2013. However Table 11 could not be added as a Table 11 is already in existence.

Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After June 4, 2010, and Before May 20, 2011

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. Mercury	3.5E-06 lb per MMBtu of heat input	For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [a]collect a minimum of 2 dscm.
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	a. Particulate Matter	0.008 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr)	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.004 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.

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	a. Particulate Matter	0.0011 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr)	Collect a minimum of 3 dscm per run.
	b. Hydrogen Chloride	0.0022 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
4. Units designed to burn pulverized coal/solid fossil fuel	a. CO	90 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
5. Stokers designed to burn coal/solid fossil fuel	a. CO	7 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
6. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO	30 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
7. Stokers designed to burn biomass/bio-based solids	a. CO	560 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.005 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
8. Fluidized bed units designed to burn biomass/bio-based solids	a. CO	260 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.02 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
9. Suspension burners/Dutch Ovens designed to burn biomass/bio-based solids	a. CO	1,010 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent	Collect a minimum of 4 dscm per run.

		oxygen	
10. Fuel cells designed to burn biomass/bio-based solids	a. CO	470 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
11. Hybrid suspension/grate units designed to burn biomass/bio-based solids	a. CO	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
12. Units designed to burn liquid fuel	a. Particulate Matter	0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr)	Collect a minimum of 2 dscm per run.
	b. Hydrogen Chloride	0.0032 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	3.0E-07 lb per MMBtu of heat input	For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [a] collect a minimum of 2 dscm.
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
13. Units designed to burn liquid fuel located in non-continental States and territories	a. Particulate Matter	0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr)	Collect a minimum of 2 dscm per run.
	b. Hydrogen Chloride	0.0032 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per

			run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	7.8E-07 lb per MMBtu of heat input	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [a] collect a minimum of 2 dscm.
	d. CO	51 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.
14. Units designed to burn gas 2 (other) gases	a. Particulate Matter	0.0067 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr)	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.0017 lb per MMBtu of heat input	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	7.9E-06 lb per MMBtu of heat input	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [a] collect a minimum of 2 dscm.
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	e. Dioxins/Furans	0.08 ng/dscm (TEQ) corrected to 7 percent oxygen	Collect a minimum of 4 dscm per run.

[a] Incorporated by reference, see § 63.14.

[76 FR 15664, Mar. 21, 2011]

EDITORIAL NOTE: At 78 FR 7208, Jan. 31, 2013, Table 12 was added, effective Apr. 1, 2013. However, Table 12 could not be added as a Table 12 is already in existence.

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 January 31, 2013

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	8.6E-07 [a]lb per MMBtu of heat input	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b]collect a minimum of 4 dscm.
2. 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, 30-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	1.1E-03 lb per MMBtu of heat input; or (2.8E-05 lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.
3. 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, 10-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.8E-02 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.
4. 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, 30-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.
5. 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	1 hr minimum sampling time.

		3 percent oxygen, 30-day rolling average)	
	b. Filterable PM (or TSM)	1.1E-03 lb per MMBtu of heat input; or (2.3E-05 lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.
6. Stokers/sloped grate/others designed to burn wet biomass fuel	a. CO (or CEMS)	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (410 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.0E-02 lb per MMBtu of heat input; or (2.6E-05 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.
7. Stokers/sloped grate/others designed to burn kiln-dried biomass fuel	a. CO	460 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.2E-01 lb per MMBtu of heat input; or (4.0E-03 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.
8. Fluidized bed units designed to burn biomass/bio-based solids	a. CO (or CEMS)	230 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	9.8E-03 lb per MMBtu of heat input; or (8.3E-05 [a]lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.
9. Suspension burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	2,400 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (2,000 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	5.1E-02 lb per MMBtu of heat input; or (6.5E-03 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.
10. Dutch Ovens/Pile burners designed to burn biomass/bio-based solids	a. CO (or CEMS)	810 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (520 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	3.6E-02 lb per MMBtu of heat input; or (3.9E-05 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.

11. Fuel cell units designed to burn biomass/bio-based solids	a. CO	910 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	2.0E-02 lb per MMBtu of heat input; or (2.9E-05 lb per MMBtu of heat input)	Collect a minimum of 2 dscm per run.
12. Hybrid suspension grate boiler designed to burn biomass/bio-based solids	a. CO (or CEMS)	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	1 hr minimum sampling time.
	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.
13. Units designed to burn liquid fuel	a. HCl	1.2E-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.
	b. Mercury	4.9E-07 [a]lb per MMBtu of heat input	For M29, collect a minimum of 4 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b]collect a minimum of 4 dscm.
14. Units designed to burn heavy liquid fuel	a. CO (or CEMS)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (18 ppm by volume on a dry basis corrected to 3 percent oxygen, 10-day rolling average)	1 hr minimum sampling time.
	b. Filterable PM (or TSM)	1.3E-03 lb per MMBtu of heat input; or (7.5E-05 lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.
15. Units designed to burn light liquid fuel	a. CO (or CEMS)	130 [a]ppm by volume on a dry basis corrected to 3 percent oxygen; or (60 ppm by volume on a dry basis corrected to 3 percent oxygen, 1-day block average).	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)	Collect a minimum of 3 dscm per run.
16. 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; or (91 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-hour rolling 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)	Collect a minimum of 2 dscm per run.
17. Units designed to burn gas 2 (other) gases	a. CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen	1 hr minimum sampling time.
	b. HCl	1.7E-03 lb per MMBtu of heat input	For M26A, Collect a minimum of 2 dscm per run; for M26, collect a minimum of 240 liters per run.
	c. Mercury	7.9E-06 lb per MMBtu of heat input	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b] collect a minimum of 3 dscm.
	d. Filterable PM (or TSM)	6.7E-03 lb per MMBtu of heat input; or (2.1E-04 lb per MMBtu of heat input)	Collect a minimum of 3 dscm per run.

[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.

[b] Incorporated by reference, see § 63.14.

[78 FR 7210, Jan. 31, 2013]

APPENDIX G

Compliance Assurance Monitoring (CAM) Plans

Compliance Assurance Monitoring Applicability Determination

Background

Upon renewal of a Title V permit, a facility must include Compliance Assurance Monitoring (CAM) Plans for certain pollutant-specific emissions units. The following criteria determine the applicability of the CAM Rule (found in 40 CFR Part 64) to emissions units:

1. The pollutant-specific emissions unit must be located at major source with a Title V permit.
2. The unit must be subject to an emission limitation or standard for the applicable regulated air pollutant.
3. The unit uses a control device to achieve compliance with any such emission limitation or standard.
4. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100% of the major source threshold.

The intent of the CAM Rule is to ensure that facilities maintain control equipment at levels that assure compliance with emission limitations. CAM Plans are the program by which these control devices will be maintained. The elements of a CAM plan must include a description of the indicators to be monitored, the indicator ranges or the process to set indicator ranges, and the performance criteria for the monitoring. These criteria include specifications for obtaining representative data, verification procedures to confirm the operational status of the chosen monitoring, quality assurance and control procedures, monitoring frequency, and the data averaging period. In addition, the plan must contain a justification for the use of parameters/indicators chosen for monitoring, the ranges developed, and the monitoring approach. Finally, an implementation plan for installing, testing, and operating the monitoring must be included.

The CAM Rule requires the following monitoring frequency:

1. Continuous monitoring for units that are classified as a major source after control. For each parameter monitored, the owner or operator shall collect four or more data values equally spaced over each hour and average the values, as applicable, over the applicable averaging period.
2. Daily monitoring (or some frequency less than continuous but at least once per a 24-hour period) for units that are not classified as a major source after control.

Compliance Assurance Monitoring Applicability Determination

CAM Rule Applicability

The following table outlines the pre-control emission calculations based on the manufacturer's data. As shown below, a CAM Plan is required for each source.

Source No.	Source Description	Pollutant	Pre-Control PTE (tpy)	Control Efficiency (%)	Post Control PTE (tpy)	Type of Monitoring Required
SN-05	E2 Plant Brinks Scrubber	PM_{10}	>100	95.0	10.8	Daily
SN-41	E2 Plant Chemical Steam Scrubber	PM_{10}	>100	Unknown	14.5	Daily
SN-35	Magnesium Oxide Baghouse	PM_{10}	>100	99.0	0.3	Daily
SN-07	Sulfuric Acid Plant	SO_2	>100	see Note 1	401.5	Continuous
SN-08	West Nitric Acid Plant	NO_x	>100	98.5	228.6	Continuous
SN-09	East Nitric Acid Plant	NO_x	>100	98.5	228.6	Continuous
SN-10	Nitric Acid Vent Collection System	NO_x	>100	95.0	85.0	Daily
SN-13	DM Weatherly Nitric Acid Plant No. 1	NO_x	>100	95.0	42.0	Continuous
SN-59	DM Weatherly Nitric Acid Plant No. 2	NO_x	>100	95.0	115.4	Continuous
SN-44	Mixed Acid Plant Scrubber	H_2SO_4 mist SO_3	>100 >100	99.5 99.5	0.18 0.18	Daily
SN-14	KT Plant Brinks Scrubber	PM_{10}	>100	95.0	4.9	Daily
SN-15	KT Plant Dryer / Cooler	PM_{10}	>100	99.9	3.2	Daily
SN-18	KT Plant Clay Baghouse	PM_{10}	>100	99.0	1.9	Daily
SN-21	KT Brinks Scrubber	PM_{10}	>100	99.0	1.5	Daily
SN-63	Ammonium Nitrate Steam Scrubber	PM_{10}	>100	Unknown	14.8	Daily
SN-49	Ammonia Plant Primary Reformer	NO_x	>100	95.0	43.3	Daily

Note:
[1]For SN-07, an absorption tower is considered a control/production device per BACT clearinghouse. Data on how efficient the absorption tower is for controlling SO_2 emissions is not available.

Compliance Assurance Monitoring

E2 Plant Brinks Scrubber

I. E2 Plant Brinks Scrubber Background

A. Emissions Unit

Description:	E2 Plant Brinks Scrubber (2 scrubbers)
Identification:	SN-05
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter:	2.5 lb/hr
Opacity:	20%
Monitoring Requirements:	Scrubber liquid pH, flow rate, gas pressure drop

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Minimum scrubber liquid flow rate for each scrubber
3. Minimum gas pressure drop for each scrubber

B. Measurement Approach

The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. Scrubber liquid range of 0.5 – 6.0
2. The minimum scrubber liquor flow rate is 225 gal/min for each scrubber.
3. The minimum gas pressure drop is 2.5" H_2O for each scrubber.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices (flow meter and pressure drop indices) will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control some of the particulate matter emissions generated in the E2 Plant. The scrubber has a maximum gas flow rate of 187,152 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, flow rate and gas pressure drop were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor flow rate indicates that there is adequate liquor flow to ensure sufficient liquid to gas contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquor flow rate, the scrubber liquid pH, and the minimum gas pressure drop is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the particulate emissions from the exhaust of the E2 Plant Brinks Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

E2 Plant Chemical Steam Scrubber

I. E2 Plant Chemical Steam Scrubber Background

A. Emissions Unit

Description:	E2 Plant Chemical Steam Scrubber
Identification:	SN-41
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter:	13.7 lb/hr (24-hour average) 3.3 lb/hr (30-day average)
Opacity:	15%
Monitoring Requirements:	Continuous sampling of stack gas to produce two 12-hour composite samples per day

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

PM hourly emissions

B. Measurement Approach

Stack sampling will be conducted continuously to produce two 12-hour composite samples each day. Each 12-hour composite sample is analyzed to measure the ammonia and nitrate concentrations. Data from the analyses is then used calculate the mass concentration of condensable particulate matter and produce a lb/day value.

C. Indicator Range

13.7 lb/hr (24-hour average)
3.3 lb/hr (30-day average)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the continuous sampling system.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	QA/QC procedures will be conducted consistent with the required test methods for ammonia and nitrate analyses.
Monitoring Frequency and Data:	Stack sampling will be conducted continuously to produce two 12-hour composite samples each day. Each 12-hour composite sample is analyzed to measure the ammonia and nitrate concentrations. Data from the analyses is then used calculate the mass concentration of condensable particulate matter and produce a lb/day value.
Collection Procedure:	Continuous sampling device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A chemical steam scrubber is used to control the condensable particulate matter emissions generated from the E2 Plant ammonium nitrate neutralizers. The scrubber has a maximum gas flow rate of 64,522 ft^3/min.

B. Rationale for Selection of Performance Indicator

Accurate correlations between PM emissions and monitored operating parameters could not be established; therefore, emissions will be continuously monitored using the required continuous sampling and analysis methodology to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit; emissions will be continuously monitored using the required continuous sampling and analysis methodology to demonstrate compliance with the permit limits for both averaging periods.

Compliance Assurance Monitoring

Ammonium Nitrate Chemical Steam Scrubber

I. Ammonium Nitrate Chemical Steam Scrubber Background

A. Emissions Unit

Description:	Ammonium Nitrate Chemical Steam Scrubber
Identification:	SN-63
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter:	14.0 lb/hr (24-hour average) 3.4 lb/hr (30-day average)
Opacity:	15%
Monitoring Requirements:	Continuous sampling of stack gas to produce two 12-hour composite samples per day

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

PM hourly emissions

B. Measurement Approach

Stack sampling will be conducted continuously to produce two 12-hour composite samples each day. Each 12-hour composite sample is analyzed to measure the ammonia and nitrate concentrations. Data from the analyses is then used calculate the mass concentration of condensable particulate matter and produce a lb/day value.

C. Indicator Range

14.0 lb/hr (24-hour average)
3.4 lb/hr (30-day average)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the continuous sampling system.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	QA/QC procedures will be conducted consistent with the required test methods for ammonia and nitrate analyses.
Monitoring Frequency and Data:	Stack sampling will be conducted continuously to produce two 12-hour composite samples each day. Each 12-hour composite sample is analyzed to measure the ammonia and nitrate concentrations. Data from the analyses is then used calculate the mass concentration of condensable particulate matter and produce a lb/day value.
Collection Procedure:	Continuous sampling device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A chemical steam scrubber is used to control the condensable particulate matter emissions generated from the E2 Plant ammonium nitrate neutralizers. The scrubber has a maximum gas flow rate of 64,522 ft^3/min.

B. Rationale for Selection of Performance Indicator

Accurate correlations between PM emissions and monitored operating parameters could not be established; therefore, emissions will be continuously monitored using the required continuous sampling and analysis methodology to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit; emissions will be continuously monitored using the required continuous sampling and analysis methodology to demonstrate compliance with the permit limits for both averaging periods.

Compliance Assurance Monitoring

Magnesium Oxide Baghouse

I. Magnesium Oxide Baghouse

A. Emissions Unit

Description:	Magnesium Oxide Baghouse
Identification:	SN-35
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter (PM):	2.0 lb/hr
Monitoring Requirements:	Gas pressure drop across the baghouse

C. Control Technology

Baghouse

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

Gas pressure drop

B. Measurement Approach

The gas pressure drop across the baghouse will be measured and recorded daily.

C. Indicator Range

0.5" H_2O – 8.0" H_2O

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Preventative maintenance inspection will be performed once per year.
Monitoring Frequency and Data:	The gas pressure drop across the baghouse will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A baghouse is used to control PM emissions generated during magnesium oxide storage and transfer operations.

B. Rationale for Selection of Performance Indicator

The gas pressure drop across the baghouse was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the PM emission standard. The gas pressure drop across the baghouse indicates the amount of particle build up on the filter media. A freshly cleaned baghouse will have an estimated gas pressure drop of 0.5" H_2O. When the gas pressure drop reaches 8.0" H_2O, the filter media will be cleaned. When the baghouse is operating properly, the PM emissions from the Magnesium Oxide Baghouse will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameter was selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

Sulfuric Acid Plant

I. Sulfuric Acid Plant Background

A. Emissions Unit

Description:	Sulfuric Acid Plant
Identification:	SN-07
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Sulfur Dioxide:	92.0 lb/hr (3-hr average basis) 4.0 lb/ton 100% sulfuric acid (3-hr average basis)
Monitoring Requirements:	Sulfur dioxide (SO_2) emissions

C. Control Technology

An absorption tower is considered a control/production device per BACT clearinghouse.

II. Monitoring Approach

A. Indicator

SO_2 hourly emissions

B. Measurement Approach

Continuously monitor SO_2 emissions

C. Indicator Range

4.0 lb/ton 100% sulfuric acid (3-hour average basis)
92.0 lb/hr (3-hour average basis)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.

Compliance Assurance Monitoring

QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor SO_2 emissions using a CEMS.
Collection Procedure:	CEMS device

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A control device (an absorption tower) is used to control SO_2 emissions generated in the Sulfuric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control SO_2 emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

Compliance Assurance Monitoring

West Nitric Acid Plant

I. West Nitric Acid Plant Background

A. Emissions Unit

Description:	West Nitric Acid Plant
Identification:	SN-08
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Nitrogen Oxide:	52.2 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

52.2 lb/hr (3-hour average basis)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A SCR unit is used to control nitrogen oxide emissions generated in the West Nitric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control NO_x emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

Compliance Assurance Monitoring

East Nitric Acid Plant

I. East Nitric Acid Plant Background

A. Emissions Unit

Description:	East Nitric Acid Plant
Identification:	SN-09
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Nitrogen Oxide:	52.2 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

52.2 lb/hr (3-hour average basis)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor SO_2 emissions using a CEMS.
Collection Procedure:	CEMS device

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A SCR unit is used to control nitrogen oxide emissions generated in the East Nitric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control NO_x emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

Compliance Assurance Monitoring

Nitric Acid Vent Collection System Scrubber

I. Nitric Acid Vent Collection System Scrubber Background

A. Emissions Unit

Description:	Nitric Acid Concentrator Hydrogen Peroxide Scrubber
Identification:	SN-10
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Nitrogen Oxide:	19.4 lb/hr
Monitoring Requirements:	Hydrogen peroxide concentration (%) in the chemical condensate circulated at the scrubber outlet.

C. Control Technology

Hydrogen peroxide scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

Hydrogen peroxide concentration (%) in the chemical condensate.

B. Measurement Approach

Sample, test and record daily the hydrogen peroxide concentration of the chemical condensate.

C. Indicator Range

> 0%

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Lab QA/QC procedures will be followed.
Monitoring Frequency and Data:	The chemical condensate will be sampled and tested daily to determine the hydrogen peroxide concentration.
Collection Procedure:	A sample of the chemical condensate is collected manually and tested for hydrogen peroxide concentration. The test data is recorded manually in the log book.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control nitrogen oxide (NO_x) emissions generated by the Nitric Acid Vent Collection System. The scrubber has a maximum gas flow rate of 1,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The concentration of hydrogen peroxide in the chemical condensate was selected as the performance indicator because it is indicative of operation of the scrubber in a manner necessary to comply with the NO_x emission standard. When the scrubber is operating properly, the NO_x emissions from the exhaust of the Nitric Acid Vent Collection System Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameter was selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

DMW Nitric Acid Plant No. 1

I. DMW Nitric Acid Plant No. 1 Background

A. Emissions Unit

Description:	DMW Nitric Acid Plant No. 1
Identification:	SN-13
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Nitrogen Oxide:	16.7 lb/hr 0.6 lb/ ton 100% nitric acid – 365-day rolling average basis (including SSM related emissions) 1.0 lb/ton 100% nitric acid – 3-hour rolling average basis (excluding SSM related emissions)

Monitoring Requirements: Nitrogen oxide (NO_x) emissions

C. Control Technology

Refrigerated Absorber
Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions using dual range CEMS

C. Indicator Range

16.7 lb/hr
0.6 lb/ ton 100% nitric acid – 365-day rolling average basis (including SSM related emissions)
1.0 lb/ton 100% nitric acid – 3-hour rolling average basis (excluding SSM related emissions)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

II. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. Control devices (Refrigerated Absorber and SCR Unit) are used to control NO_x emissions generated in the DMW Nitric Acid Plant No. 1.

B. Rationale for Selection of Performance Indicator

NO_x emissions are above major source thresholds after control; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limits. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

DMW Nitric Acid Plant No. 2

I. DMW Nitric Acid Plant No. 2 Background

A. Emissions Unit

Description: DMW Nitric Acid Plant No. 2
Identification: SN-59
Facility: EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: 573-AOP-R15, Title V Permit
Emission Limits:

Nitrogen Oxide: 26.4 lb/hr
0.5 lb/ ton 100% nitric acid – 30-day rolling average basis (including SSM related emissions)

Monitoring Requirements: Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions using dual range CEMS

C. Indicator Range

26.4 lb/hr
0.5 lb/ ton 100% nitric acid – 30-day rolling average basis (including SSM related emissions)

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

Compliance Assurance Monitoring

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. Control devices (SCR Unit) are used to control NO_x emissions generated in the DMW Nitric Acid Plant No. 2.

B. Rationale for Selection of Performance Indicator

NO_x emissions are above major source thresholds after control; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limits. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

Mixed Acid Plant Scrubber

I. Mixed Acid Plant Scrubber Background

A. Emissions Unit

Description:	Mixed Acid Plant Scrubber
Identification:	SN-44
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
H_2SO_4 mist:	0.04 lb/hr
SO3:	0.04 lb/hr
Monitoring Requirements:	Scrubber liquid pH, flow rate, gas pressure drop

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Minimum scrubber liquid flow rate for each scrubber
3. Minimum gas pressure drop for each scrubber

B. Measurement Approach

The scrubber liquid pH, flow rate, and gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. Scrubber liquid range of 0.5 – 7.5
2. The minimum scrubber liquor flow rate is 5.0 gal/min.
3. The minimum gas pressure drop is 10.0" H_2O.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices (flow meter and pressure drop indices) will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, flow rate, and gas pressure drop will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control H_2SO_4 mist and SO_3 emissions generated by Mixed Acid Plant operations. The scrubber has a maximum gas flow rate of 1,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, flow rate and gas pressure drop were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor flow rate indicates that there is adequate liquor flow to ensure sufficient liquid to gas contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquor flow rate, the scrubber liquid pH, and the minimum gas pressure drop is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the H_2SO_4 mist and SO_3 emissions from the exhaust of the Mixed Acid Plant Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

KT Plant Brinks Scrubber

I. E2 Plant Brinks Scrubber Background

A. Emissions Unit

Description:	KT Plant Brinks Scrubber
Identification:	SN-14
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter:	1.1 lb/hr
Opacity:	20%
Monitoring Requirements:	Scrubber liquid pH, flow rate, gas pressure drop

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Minimum scrubber liquid flow rate for each scrubber
3. Minimum gas pressure drop for each scrubber

B. Measurement Approach

The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. Scrubber liquid range of 0.5 – 6.0
2. The minimum scrubber liquor flow rate is 225 gal/min for each scrubber.
3. The minimum gas pressure drop is 2.5" H_2O for each scrubber.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices (flow meter and pressure drop indices) will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control some of the particulate matter emissions generated in the E2 Plant. The scrubber has a maximum gas flow rate of 96,900 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, flow rate and gas pressure drop were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor flow rate indicates that there is adequate liquor flow to ensure sufficient liquid to gas contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquor flow rate, the scrubber liquid pH, and the minimum gas pressure drop is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the particulate emissions from the exhaust of the E2 Plant Brinks Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

KT Plant Dryer/Cooler Scrubber

I. KT Plant Dryer/Cooler Scrubber Background

A. Emissions Unit

Description:	KT Plant Dryer/Cooler Scrubber
Identification:	SN-15
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter (PM):	0.7 lb/hr
Monitoring Requirements:	Scrubber liquid pH, liquid flow rate, and amperage

C. Control Technology

Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Minimum liquid flow rate
3. Minimum amperage

B. Measurement Approach

The scrubber liquid pH, the liquid flow rate, and the amperage shall be measured and recorded daily.

C. Indicator Range

1. The scrubber liquid pH range is 0.5 – 4.5.
2. The minimum scrubber liquid flow rate is 80 gal/min.
3. The minimum amperage is 290 amps.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, liquid flow rate, and scrubber amperage will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A wet scrubber with a mist eliminator is used to control the PM emissions generated by the KT Plant Dry/Cooler. The scrubber has a maximum gas flow rate of 48,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH and flow rate were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the PM emission standard. The scrubber liquid flow rate indicates that there is adequate liquid flow to ensure sufficient liquid to gas contact to scrub PM from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the fan amperage indicates that there is sufficient air flow to support gas to liquid contact to scrub PM from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquid flow rate, the scrubber liquid pH, and the minimum fan amperage is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the PM emissions from the exhaust of the KT Plant Dryer/Cooler Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

KT Plant Clay Baghouse

I. KT Plant Clay Baghouse

A. Emissions Unit

Description:	KT Plant Clay Baghouse
Identification:	SN-18
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter (PM):	1.5 lb/hr
Monitoring Requirements:	Gas pressure drop across the baghouse

C. Control Technology

Baghouse

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

Gas pressure drop

B. Measurement Approach

The gas pressure drop across the baghouse will be measured and recorded daily.

C. Indicator Range

0.5" H_2O – 8.0" H_2O

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Preventative maintenance inspection will be performed once per year.
Monitoring Frequency and Data:	The gas pressure drop across the baghouse will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A baghouse is used to control PM emissions generated by the KT Plant.

B. Rationale for Selection of Performance Indicator

The gas pressure drop across the baghouse was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the PM emission standard. The gas pressure drop across the baghouse indicates the amount of particle build up on the filter media. A freshly cleaned baghouse will have an estimated gas pressure drop of 0.5" H_2O. When the gas pressure drop reaches 8.0" H_2O, the filter media will be cleaned. When the baghouse is operating properly, the PM emissions from the KT Plant Clay Baghouse will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameter was selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

KT Brinks Scrubber

I. KT Brinks Scrubber

A. Emissions Unit

Description:	KT Brinks Scrubber
Identification:	SN-21
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R14, Title V Permit
Emission Limits:	
Particulate Matter (PM):	0.3 lb/hr
Monitoring Requirements:	Scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit

C. Control Technology

Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Liquid gas pressure to top spray nozzles
3. Minimum gas pressure drop across unit

B. Measurement Approach

The scrubber liquid flow rate, liquid gas pressure, and gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. The scrubber liquor pH range is 0.5 – 4.5.
2. The liquid gas pressure to top spray nozzles range is 80 – 100 psig.
3. The minimum gas pressure drop across unit is 2.5" H_2O.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A Brinks scrubber is used to control PM emissions generated by the KT Plant. The scrubber has a maximum gas flow rate of 8,835 acfm.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the PM emission standard. The scrubber liquid pH indicates that the scrubber liquid is performing properly to scrub PM from the gas prior to it being exhausted to the atmosphere. Likewise, the liquid gas pressure to the top spray nozzles and the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub PM from the gas prior to it being exhausted to the atmosphere. The selected performance indicators will be monitored daily to ensure that the scrubber is operating properly. When the scrubber is operating properly, the PM emissions from the exhaust of the KT Plant Brinks Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

Compliance Assurance Monitoring

Ammonia Plant Primary Reformer

I. Ammonia Plant Background

A. Emissions Unit

Description:	Ammonia Plant Primary Reformer
Identification:	SN-49
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R15, Title V Permit
Emission Limits:	
Nitrogen oxide:	9.9 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

SCR inlet flow gas temperature and ammonia feed rate

B. Measurement Approach

Continuously monitor temperature of inlet gas and ammonia feed rate to SCR

C. Indicator Range

Vendor specifications for minimum SCR inlet gas temperature and ammonia feed rate

D. QIP Threshold

The QIP threshold is nine excursions in six month reporting period.

Compliance Assurance Monitoring

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices will be performed once per year.
Monitoring Frequency and Data:	Continuously monitor SCR inlet gas temperature and ammonia feed rate.
Collection Procedure:	Monitoring devices.

II. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A SCR is used to control NO_x emissions generated at the Ammonia Plant Primary Reformer.

B. Rationale for Selection of Performance Indicator

Monitoring the temperature of the inlet gas to the SCR and the ammonia feed rate per vendor specifications will ensure that the minimum temperature and ammonia feed rate needed for efficient catalytic reduction is maintained.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Continuous monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

APPENDIX H

Continuous Emission Monitoring Systems Conditions

Arkansas Department of Environmental Quality

CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised September 2013

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.

- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or Cylinder Gas Audit (CGA) which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

** Only CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75 shall comply with this section.

A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.

B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.

C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.

D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval, the excess zero and span drifts measured must be quantified and recorded.

E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.

F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.

G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.

H. All COMS shall 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.

I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ

CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

** All CEMS/COMS shall comply with this section.

A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.

B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 business days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.

C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.

D. Each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter.

E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.

F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.

G. Quarterly reports shall be used by the Department to determine compliance with the permit.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

** Only CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75 shall comply with this section.

A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.

B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS/COMS
    a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
2. Calibration drift determination and adjustment of CEMS/COMS
    a. Out-of-control period determination
    b. Steps of corrective action
3. Preventive maintenance of CEMS/COMS
    a. CEMS/COMS information
        1) Manufacture
        2) Model number
        3) Serial number
    b. Scheduled activities (check list)
    c. Spare part inventory
4. Data recording, calculations, and reporting
5. Accuracy audit procedures including sampling and analysis methods
6. Program of corrective action for malfunctioning CEMS/COMS

D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O_2 & CO_2)	> 1.0 % O2 or CO2
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O_2 & CO_2)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O_2 & CO_2)	> 15% of the three run average or > 7.5 % of the applicable standard

F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.

G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

APPENDIX I

40 CFR Part 63, Subpart CCCCCC – *National Emission Standards For Hazardous Air Pollutants For Source Category: Gasoline Dispensing Facilities*

Subpart CCCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Contents

SOURCE: 73 FR 1945, Jan. 10, 2008, unless otherwise noted.

WHAT THIS SUBPART COVERS

§63.11110 What is the purpose of this subpart?

This subpart establishes national emission limitations and management practices for hazardous air pollutants (HAP) emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). This subpart also establishes requirements to demonstrate compliance with the emission limitations and management practices.

§63.11111 Am I subject to the requirements in this subpart?

(a) The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.

(b) If your GDF has a monthly throughput of less than 10,000 gallons of gasoline, you must comply with the requirements in §63.11116.

(c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more, you must comply with the requirements in §63.11117.

(d) If your GDF has a monthly throughput of 100,000 gallons of gasoline or more, you must comply with the requirements in §63.11118.

(e) An affected source shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon or the 100,000-gallon threshold level, as applicable. For new or reconstructed affected sources, as specified in §63.11112(b) and (c), recordkeeping to document monthly throughput must begin upon startup of the affected source. For existing sources, as specified in §63.11112(d), recordkeeping to document monthly throughput must begin on January 10, 2008. For existing sources that are subject to this subpart only because they load gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, recordkeeping to document monthly throughput must begin on January 24, 2011. Records required under this paragraph shall be kept for a period of 5 years.

(f) If you are an owner or operator of affected sources, as defined in paragraph (a) of this section, you are not required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 as a result of being subject to this subpart. However, you must still apply for and obtain a permit under 40 CFR part 70 or 40 CFR part 71 if you meet one or more of the applicability criteria found in 40 CFR 70.3(a) and (b) or 40 CFR 71.3(a) and (b).

(g) The loading of aviation gasoline into storage tanks at airports, and the subsequent transfer of aviation gasoline within the airport, is not subject to this subpart.

(h) Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at a single affected GDF. If an area source has two or more GDF at separate locations within the area source, each GDF is treated as a separate affected source.

(i) If your affected source's throughput ever exceeds an applicable throughput threshold, the affected source will remain subject to the requirements for sources above the threshold, even if the affected source throughput later falls below the applicable throughput threshold.

(j) The dispensing of gasoline from a fixed gasoline storage tank at a GDF into a portable gasoline tank for the on-site delivery and subsequent dispensing of the gasoline into the fuel tank of a motor vehicle or other gasoline-fueled engine or equipment used within the area source is only subject to §63.11116 of this subpart.

(k) For any affected source subject to the provisions of this subpart and another Federal rule, you may elect to comply only with the more stringent provisions of the applicable subparts. You must consider all provisions of the rules, including monitoring, recordkeeping, and reporting. You must identify the affected source and provisions with which you will comply in your Notification of Compliance Status required under §63.11124. You also must demonstrate in your Notification of Compliance Status that each provision with which you will comply is at least as stringent as the otherwise applicable requirements in this subpart. You are responsible for making accurate determinations concerning the more stringent provisions, and noncompliance with this rule is not excused if it is later determined that your determination was in error, and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the Notification of Compliance Status does not alter or affect that responsibility.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4181, Jan. 24, 2011]

§63.11112 What parts of my affected source does this subpart cover?

(a) The emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing GDF that meet the criteria specified in §63.11111. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

(b) An affected source is a new affected source if you commenced construction on the affected source after November 9, 2006, and you meet the applicability criteria in §63.11111 at the time you commenced operation.

(c) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(d) An affected source is an existing affected source if it is not new or reconstructed.

§63.11113 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section, except as specified in paragraph (d) of this section.

(1) If you start up your affected source before January 10, 2008, you must comply with the standards in this subpart no later than January 10, 2008.

(2) If you start up your affected source after January 10, 2008, you must comply with the standards in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the standards in this subpart no later than January 10, 2011.

(c) If you have an existing affected source that becomes subject to the control requirements in this subpart because of an increase in the monthly throughput, as specified in §63.11111(c) or §63.11111(d), you must comply with the standards in this subpart no later than 3 years after the affected source becomes subject to the control requirements in this subpart.

(d) If you have a new or reconstructed affected source and you are complying with Table 1 to this subpart, you must comply according to paragraphs (d)(1) and (2) of this section.

(1) If you start up your affected source from November 9, 2006 to September 23, 2008, you must comply no later than September 23, 2008.

(2) If you start up your affected source after September 23, 2008, you must comply upon startup of your affected source.

(e) The initial compliance demonstration test required under §63.11120(a)(1) and (2) must be conducted as specified in paragraphs (e)(1) and (2) of this section.

(1) If you have a new or reconstructed affected source, you must conduct the initial compliance test upon installation of the complete vapor balance system.

(2) If you have an existing affected source, you must conduct the initial compliance test as specified in paragraphs (e)(2)(i) or (e)(2)(ii) of this section.

(i) For vapor balance systems installed on or before December 15, 2009, you must test no later than 180 days after the applicable compliance date specified in paragraphs (b) or (c) of this section.

(ii) For vapor balance systems installed after December 15, 2009, you must test upon installation of the complete vapor balance system.

(f) If your GDF is subject to the control requirements in this subpart only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must comply with the standards in this subpart as specified in paragraphs (f)(1) or (f)(2) of this section.

(1) If your GDF is an existing facility, you must comply by January 24, 2014.

(2) If your GDF is a new or reconstructed facility, you must comply by the dates specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) If you start up your GDF after December 15, 2009, but before January 24, 2011, you must comply no later than January 24, 2011.

(ii) If you start up your GDF after January 24, 2011, you must comply upon startup of your GDF.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4181, Jan. 24, 2011]

Emission Limitations and Management Practices

§63.11115 What are my general duties to minimize emissions?

Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.

(a) You must, at all times, 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. 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.

(b) You must keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b).

[76 FR 4182, Jan. 24, 2011]

§63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;

(2) Clean up spills as expeditiously as practicable;

(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in §63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

§63.11117 Requirements for facilities with monthly throughput of 10,000 gallons of gasoline or more.

(a) You must comply with the requirements in section §63.11116(a).

(b) Except as specified in paragraph (c) of this section, you must only load gasoline into storage tanks at your facility by utilizing submerged filling, as defined in §63.11132, and as specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section. The applicable distances in paragraphs (b)(1) and (2) shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank.

(1) Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank.

(2) Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank.

(3) Submerged fill pipes not meeting the specifications of paragraphs (b)(1) or (b)(2) of this section are allowed if the owner or operator can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit.

(c) Gasoline storage tanks with a capacity of less than 250 gallons are not required to comply with the submerged fill requirements in paragraph (b) of this section, but must comply only with all of the requirements in §63.11116.

(d) You must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(e) You must submit the applicable notifications as required under §63.11124(a).

(f) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§63.11118 Requirements for facilities with monthly throughput of 100,000 gallons of gasoline or more.

(a) You must comply with the requirements in §§63.11116(a) and 63.11117(b).

(b) Except as provided in paragraph (c) of this section, you must meet the requirements in either paragraph (b)(1) or paragraph (b)(2) of this section.

(1) Each management practice in Table 1 to this subpart that applies to your GDF.

(2) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(2)(i) and (ii) of this section, you will be deemed in compliance with this subsection.

(i) You operate a vapor balance system at your GDF that meets the requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraph (b)(2)(i)(A) or paragraph (b)(2)(i)(B) of this section.

(c) The emission sources listed in paragraphs (c)(1) through (3) of this section are not required to comply with the control requirements in paragraph (b) of this section, but must comply with the requirements in §63.11117.

(1) Gasoline storage tanks with a capacity of less than 250 gallons that are constructed after January 10, 2008.

(2) Gasoline storage tanks with a capacity of less than 2,000 gallons that were constructed before January 10, 2008.

(3) Gasoline storage tanks equipped with floating roofs, or the equivalent.

(d) Cargo tanks unloading at GDF must comply with the management practices in Table 2 to this subpart.

(e) You must comply with the applicable testing requirements contained in §63.11120.

(f) You must submit the applicable notifications as required under §63.11124.

(g) You must keep records and submit reports as specified in §§63.11125 and 63.11126.

(h) You must comply with the requirements of this subpart by the applicable dates contained in §63.11113.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008]

Testing and Monitoring Requirements

§63.11120 What testing and monitoring requirements must I meet?

(a) Each owner or operator, at the time of installation, as specified in §63.11113(e), of a vapor balance system required under §63.11118(b)(1), and every 3 years thereafter, must comply with the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must demonstrate compliance with the leak rate and cracking pressure requirements, specified in item 1(g) of Table 1 to this subpart, for pressure-vacuum vent valves installed on your gasoline storage tanks using the test methods identified in paragraph (a)(1)(i) or paragraph (a)(1)(ii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.1E,—Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves, adopted October 8, 2003 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(2) You must demonstrate compliance with the static pressure performance requirement specified in item 1(h) of Table 1 to this subpart for your vapor balance system by conducting a static pressure test on your gasoline storage tanks using the test methods identified in paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(i) California Air Resources Board Vapor Recovery Test Procedure TP-201.3,—Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities, adopted April 12, 1996, and amended March 17, 1999 (incorporated by reference, see §63.14).

(ii) Use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

(iii) Bay Area Air Quality Management District Source Test Procedure ST-30—Static Pressure Integrity Test—Underground Storage Tanks, adopted November 30, 1983, and amended December 21, 1994 (incorporated by reference, *see* §63.14).

(b) Each owner or operator choosing, under the provisions of §63.6(g), to use a vapor balance system other than that described in Table 1 to this subpart must demonstrate to the Administrator or delegated authority under paragraph §63.11131(a) of this subpart, the equivalency of their vapor balance system to that described in Table 1 to this subpart using the procedures specified in paragraphs (b)(1) through (3) of this section.

(1) You must demonstrate initial compliance by conducting an initial performance test on the vapor balance system to demonstrate that the vapor balance system achieves 95 percent reduction using the California Air Resources Board Vapor Recovery Test Procedure TP-201.1,—Volumetric Efficiency for Phase I Vapor Recovery Systems, adopted April 12, 1996, and amended February 1, 2001, and October 8, 2003, (incorporated by reference, see §63.14).

(2) You must, during the initial performance test required under paragraph (b)(1) of this section, determine and document alternative acceptable values for the leak rate and cracking pressure

requirements specified in item 1(g) of Table 1 to this subpart and for the static pressure performance requirement in item 1(h) of Table 1 to this subpart.

(3) You must comply with the testing requirements specified in paragraph (a) of this section.

(c) Conduct of performance tests. Performance tests conducted for this subpart shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (*i.e.,* performance based on normal operating conditions) of the affected source. 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.

(d) Owners and operators of gasoline cargo tanks subject to the provisions of Table 2 to this subpart must conduct annual certification testing according to the vapor tightness testing requirements found in §63.11092(f).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4182, Jan. 24, 2011]

NOTIFICATIONS, RECORDS, AND REPORTS

§63.11124 What notifications must I submit and when?

(a) Each owner or operator subject to the control requirements in §63.11117 must comply with paragraphs (a)(1) through (3) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11117, unless you meet the requirements in paragraph (a)(3) of this section. If your affected source is subject to the control requirements in §63.11117 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (a)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11117 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, within 60 days of the applicable compliance date specified in §63.11113, unless you meet the requirements in paragraph (a)(3) of this section. The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facilities' monthly throughput is calculated based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (a)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (a)(1) of this section.

(3) If, prior to January 10, 2008, you are operating in compliance with an enforceable State, local, or tribal rule or permit that requires submerged fill as specified in §63.11117(b), you are not required to

submit an Initial Notification or a Notification of Compliance Status under paragraph (a)(1) or paragraph (a)(2) of this section.

(b) Each owner or operator subject to the control requirements in §63.11118 must comply with paragraphs (b)(1) through (5) of this section.

(1) You must submit an Initial Notification that you are subject to this subpart by May 9, 2008, or at the time you become subject to the control requirements in §63.11118. If your affected source is subject to the control requirements in §63.11118 only because it loads gasoline into fuel tanks other than those in motor vehicles, as defined in §63.11132, you must submit the Initial Notification by May 24, 2011. The Initial Notification must contain the information specified in paragraphs (b)(1)(i) through (iii) of this section. The notification must be submitted to the applicable EPA Regional Office and delegated State authority as specified in §63.13.

(i) The name and address of the owner and the operator.

(ii) The address (i.e., physical location) of the GDF.

(iii) A statement that the notification is being submitted in response to this subpart and identifying the requirements in paragraphs (a) through (c) of §63.11118 that apply to you.

(2) You must submit a Notification of Compliance Status to the applicable EPA Regional Office and the delegated State authority, as specified in §63.13, in accordance with the schedule specified in §63.9(h). The Notification of Compliance Status must be signed by a responsible official who must certify its accuracy, must indicate whether the source has complied with the requirements of this subpart, and must indicate whether the facility's throughput is determined based on the volume of gasoline loaded into all storage tanks or on the volume of gasoline dispensed from all storage tanks. If your facility is in compliance with the requirements of this subpart at the time the Initial Notification required under paragraph (b)(1) of this section is due, the Notification of Compliance Status may be submitted in lieu of the Initial Notification provided it contains the information required under paragraph (b)(1) of this section.

(3) If, prior to January 10, 2008, you satisfy the requirements in both paragraphs (b)(3)(i) and (ii) of this section, you are not required to submit an Initial Notification or a Notification of Compliance Status under paragraph (b)(1) or paragraph (b)(2) of this subsection.

(i) You operate a vapor balance system at your gasoline dispensing facility that meets the requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) Achieves emissions reduction of at least 90 percent.

(B) Operates using management practices at least as stringent as those in Table 1 to this subpart.

(ii) Your gasoline dispensing facility is in compliance with an enforceable State, local, or tribal rule or permit that contains requirements of either paragraphs (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(4) You must submit a Notification of Performance Test, as specified in §63.9(e), prior to initiating testing required by §63.11120(a) and (b).

(5) You must submit additional notifications specified in §63.9, as applicable.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 12276, Mar. 7, 2008; 76 FR 4182, Jan. 24, 2011]

§63.11125 What are my recordkeeping requirements?

(a) Each owner or operator subject to the management practices in §63.11118 must keep records of all tests performed under §63.11120(a) and (b).

(b) Records required under paragraph (a) of this section shall be kept for a period of 5 years and shall be made available for inspection by the Administrator's delegated representatives during the course of a site visit.

(c) Each owner or operator of a gasoline cargo tank subject to the management practices in Table 2 to this subpart must keep records documenting vapor tightness testing for a period of 5 years. Documentation must include each of the items specified in §63.11094(b)(2)(i) through (viii). Records of vapor tightness testing must be retained as specified in either paragraph (c)(1) or paragraph (c)(2) of this section.

(1) The owner or operator must keep all vapor tightness testing records with the cargo tank.

(2) As an alternative to keeping all records with the cargo tank, the owner or operator may comply with the requirements of paragraphs (c)(2)(i) and (ii) of this section.

(i) The owner or operator may keep records of only the most recent vapor tightness test with the cargo tank, and keep records for the previous 4 years at their office or another central location.

(ii) Vapor tightness testing records that are kept at a location other than with the cargo tank must be instantly available (*e.g.,* via e-mail or facsimile) to the Administrator's delegated representative during the course of a site visit or within a mutually agreeable time frame. Such records must be an exact duplicate image of the original paper copy record with certifying signatures.

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

§63.11126 What are my reporting requirements?

(a) Each owner or operator subject to the management practices in §63.11118 shall report to the Administrator the results of all volumetric efficiency tests required under §63.11120(b). Reports submitted under this paragraph must be submitted within 180 days of the completion of the performance testing.

(b) Each owner or operator of an affected source under this subpart shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year 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 §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred.

[76 FR 4183, Jan. 24, 2011]

OTHER REQUIREMENTS AND INFORMATION

§63.11130 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions apply to you.

§63.11131 Who implements and enforces this subpart?

(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 (3) of this section.

(1) Approval of alternatives to the requirements in §§63.11116 through 63.11118 and 63.11120.

(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 recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

§63.11132 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act (CAA), or in subparts A and BBBBBB of this part. For purposes of this subpart, definitions in this section supersede definitions in other parts or subparts.

Dual-point vapor balance system means a type of vapor balance system in which the storage tank is equipped with an entry port for a gasoline fill pipe and a separate exit port for a vapor connection.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines.

Gasoline cargo tank means a delivery tank truck or railcar which is loading or unloading gasoline, or which has loaded or unloaded gasoline on the immediately previous load.

Gasoline dispensing facility (GDF) means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. These facilities include, but are not limited to, facilities that dispense gasoline into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway.

Nonroad engine means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under section 7411 of this title or section 7521 of this title.

Nonroad vehicle means a vehicle that is powered by a nonroad engine, and that is not a motor vehicle or a vehicle used solely for competition.

Submerged filling means, for the purposes of this subpart, the filling of a gasoline storage tank through a submerged fill pipe whose discharge is no more than the applicable distance specified in §63.11117(b) from the bottom of the tank. Bottom filling of gasoline storage tanks is included in this definition.

Vapor balance system means a combination of pipes and hoses that create a closed system between the vapor spaces of an unloading gasoline cargo tank and a receiving storage tank such that vapors displaced from the storage tank are transferred to the gasoline cargo tank being unloaded.

Vapor-tight means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the Lower Explosive Limit when measured with a combustible gas detector, calibrated with propane, at a distance of 1 inch from the source.

Vapor-tight gasoline cargo tank means a gasoline cargo tank which has demonstrated within the 12 preceding months that it meets the annual certification test requirements in §63.11092(f) of this part.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4183, Jan. 24, 2011]

Table 1 to Subpart CCCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More[1]

If you own or operate	Then you must
1. A new, reconstructed, or existing GDF subject to §63.11118	Install and operate a vapor balance system on your gasoline storage tanks that meets the design criteria in paragraphs (a) through (h).
	(a) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnect.
	(b) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor-tight, as defined in §63.11132.
	(c) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18 inches water pressure or 5.9 inches water vacuum during product transfer.
	(d) The vapor recovery and product adaptors, and the method of

	connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations.
	(e) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends the same distance from the bottom of the storage tank as specified in §63.11117(b).
	(f) Liquid fill connections for all systems shall be equipped with vapor-tight caps.
	(g) Pressure/vacuum (PV) vent valves shall be installed on the storage tank vent pipes. The pressure specifications for PV vent valves shall be: a positive pressure setting of 2.5 to 6.0 inches of water and a negative pressure setting of 6.0 to 10.0 inches of water. The total leak rate of all PV vent valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0 inches of water and 0.63 cubic foot per hour at a vacuum of 4 inches of water.
	(h) The vapor balance system shall be capable of meeting the static pressure performance requirement of the following equation:
	$Pf = 2e^{-500.887/v}$
	Where:
	Pf = Minimum allowable final pressure, inches of water.
	v = Total ullage affected by the test, gallons.
	e = Dimensionless constant equal to approximately 2.718.
	2 = The initial pressure, inches water.
2. A new or reconstructed GDF, or any storage tank(s) constructed after November 9, 2006, at an existing affected facility subject to §63.11118	Equip your gasoline storage tanks with a dual-point vapor balance system, as defined in §63.11132, and comply with the requirements of item 1 in this Table.

[1]The management practices specified in this Table are not applicable if you are complying with the requirements in §63.11118(b)(2), except that if you are complying with the requirements in §63.11118(b)(2)(i)(B), you must operate using management practices at least as stringent as those listed in this Table.

[73 FR 1945, Jan. 10, 2008, as amended at 73 FR 35944, June 25, 2008; 76 FR 4184, Jan. 24, 2011]

Table 2 to Subpart CCCCCC of Part 63—Applicability Criteria and Management Practices for Gasoline Cargo Tanks Unloading at Gasoline Dispensing Facilities With Monthly Throughput of 100,000 Gallons of Gasoline or More

If you own or operate	Then you must
A gasoline cargo tank	Not unload gasoline into a storage tank at a GDF subject to the control requirements in this subpart unless the following conditions are met:
	(i) All hoses in the vapor balance system are properly connected,

	(ii) The adapters or couplers that attach to the vapor line on the storage tank have closures that seal upon disconnect,
	(iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight,
	(iv) All tank truck vapor return equipment is compatible in size and forms a vapor-tight connection with the vapor balance equipment on the GDF storage tank, and
	(v) All hatches on the tank truck are closed and securely fastened.
	(vi) The filling of storage tanks at GDF shall be limited to unloading from vapor-tight gasoline cargo tanks. Documentation that the cargo tank has met the specifications of EPA Method 27 shall be carried with the cargo tank, as specified in §63.11125(c).

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

Table 3 to Subpart CCCCCC of Part 63—Applicability of General Provisions

Citation	Subject	Brief description	Applies to subpart CCCCCC
§63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications	Yes, specific requirements given in §63.11111.
§63.1(c)(2)	Title V Permit	Requirements for obtaining a title V permit from the applicable permitting authority	Yes, §63.11111(f) of subpart CCCCCC exempts identified area sources from the obligation to obtain title V operating permits.
§63.2	Definitions	Definitions for part 63 standards	Yes, additional definitions in §63.11132.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, severability	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes, except that these notifications are not required for facilities subject to §63.11116
§63.6(a)	Compliance with Standards/Operation & Maintenance—Applicability	General Provisions apply unless compliance extension; General Provisions apply to area sources that	Yes.

		become major	
§63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for CAA section 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	No.
§63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Comply according to date in this subpart, which must be no later than 3 years after effective date; for CAA section 112(f) standards, comply within 90 days of effective date unless compliance extension	No, §63.11113 specifies the compliance dates.
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources That become major must comply with major source standards by date indicated in this subpart or by equivalent time period (e.g., 3 years)	No.
§63.6(d)	[Reserved]		
63.6(e)(1)(i)	General duty to minimize emissions	Operate to minimize emissions at all times; information Administrator will use to determine if operation and maintenance requirements were met.	No. *See* §63.11115 for general duty requirement.
63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	Owner or operator must correct malfunctions as soon as possible.	No.
§63.6(e)(2)	[Reserved]		
§63.6(e)(3)	Startup, Shutdown, and Malfunction (SSM) Plan	Requirement for SSM plan; content of SSM plan; actions during SSM	No.
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	No.
§63.6(f)(2)-(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)(1)	Compliance with	You must comply with opacity/VE	No.

	Opacity/Visible Emission (VE) Standards	standards at all times except during SSM	
§63.6(h)(2)(i)	Determining Compliance with Opacity/VE Standards	If standard does not State test method, use EPA Method 9 for opacity in appendix A of part 60 of this chapter and EPA Method 22 for VE in appendix A of part 60 of this chapter	No.
§63.6(h)(2)(ii)	[Reserved]		
§63.6(h)(2)(iii)	Using Previous Tests To Demonstrate Compliance With Opacity/VE Standards	Criteria for when previous opacity/VE testing can be used to show compliance with this subpart	No.
§63.6(h)(3)	[Reserved]		
§63.6(h)(4)	Notification of Opacity/VE Observation Date	Must notify Administrator of anticipated date of observation	No.
§63.6(h)(5)(i), (iii)-(v)	Conducting Opacity/VE Observations	Dates and schedule for conducting opacity/VE observations	No.
§63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times	Must have at least 3 hours of observation with 30 6-minute averages	No.
§63.6(h)(6)	Records of Conditions During Opacity/VE Observations	Must keep records available and allow Administrator to inspect	No.
§63.6(h)(7)(i)	Report Continuous Opacity Monitoring System (COMS) Monitoring Data From Performance Test	Must submit COMS data with other performance test data	No.
§63.6(h)(7)(ii)	Using COMS Instead of EPA Method 9	Can submit COMS data instead of EPA Method 9 results even if rule requires EPA Method 9 in appendix A of part 60 of this chapter, but must notify Administrator before performance test	No.
§63.6(h)(7)(iii)	Averaging Time for COMS During Performance Test	To determine compliance, must reduce COMS data to 6-minute averages	No.
§63.6(h)(7)(iv)	COMS Requirements	Owner/operator must demonstrate that COMS performance evaluations are conducted according to §63.8(e); COMS are properly maintained and operated according to §63.8(c) and data quality as §63.8(d)	No.
§63.6(h)(7)(v)	Determining Compliance with Opacity/VE Standards	COMS is probable but not conclusive evidence of compliance with opacity standard, even if EPA Method 9 observation shows otherwise. Requirements for COMS to be probable evidence-proper maintenance, meeting Performance Specification 1 in appendix B of part	No.

		60 of this chapter, and data have not been altered	
§63.6(h)(8)	Determining Compliance with Opacity/VE Standards	Administrator will use all COMS, EPA Method 9 (in appendix A of part 60 of this chapter), and EPA Method 22 (in appendix A of part 60 of this chapter) results, as well as information about operation and maintenance to determine compliance	No.
§63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard	No.
§63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§63.7(a)(3)	CAA Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Re-scheduling	If have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
63.7(e)(1)	Conditions for Conducting Performance Tests	Performance test must be conducted under representative conditions	No, §63.11120(c) specifies conditions for conducting performance tests.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1	Yes.

		hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11 apply	Yes.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	No.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	No.
§63.8(c)(1)(i)-(iii)	Operation and Maintenance of Continuous Monitoring Systems (CMS)	Must maintain and operate each CMS as specified in §63.6(e)(1); must keep parts for routine repairs readily available; must develop a written SSM plan for CMS, as specified in §63.6(e)(3)	No.
§63.8(c)(2)-(8)	CMS Requirements	Must install to get representative	No.

		emission or parameter measurements; must verify operational status before or at performance test	
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	No.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	No.
§63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	No.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system (CEMS)	No.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	No.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)-(2), (4)-(5)	Initial Notifications	Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each	Yes.
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications when Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes, however, there are no opacity standards.
§63.9(h)(1)-(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/VE,	Yes, however, there are no opacity

		which are due 30 days after; when to submit to Federal vs. State authority	standards.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)	Records related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns	No.
§63.10(b)(2)(ii)	Records related to SSM	Recordkeeping of malfunctions	No. *See* §63.11125(d) for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
§63.10(b)(2)(iii)	Maintenance records	Recordkeeping of maintenance on air pollution control and monitoring equipment	Yes.
§63.10(b)(2)(iv)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(vi)-(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	No.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)	Records	Additional records for CMS	No.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test	When to submit to Federal or State	Yes.

	Results	authority	
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	No.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	SSM Reports	Contents and submission	No. *See* §63.11126(b) for malfunction reporting requirements.
§63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; two-three copies of COMS performance evaluation	No.
§63.10(e)(3)(i)-(iii)	Reports	Schedule for reporting excess emissions	No.
§63.10(e)(3)(iv)-(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)-(8) and 63.10(c)(5)-(13)	No.
§63.10(e)(3)(iv)-(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedances (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)-(8) and 63.10(c)(5)-(13)	No, §63.11130(K) specifies excess emission events for this subpart.
§63.10(e)(3)(vi)-(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS; requires all of the	No.

		information in §§63.10(c)(5)-(13) and 63.8(c)(7)-(8)	
§63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11(b)	Flares	Requirements for flares	No.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporations by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

[73 FR 1945, Jan. 10, 2008, as amended at 76 FR 4184, Jan. 24, 2011]

APPENDIX J

CEMS Monitoring Plan from the EPA/DOJ/LSB global settlement

ATTACHMENT C

NITRIC ACID PLANT CEMS PLAN

CEMS Plan for NO_x Emissions
LSB Operating Nitric Acid Plants

Principle

This CEMS Plan is the mechanism for determining compliance with the Short-Term NO_x Limit and Long-Term NO_x Limit applicable to each Operating Nitric Acid Plant, as specified in the Consent Decree, and is used to evaluate the compliance status with the NSPS NO_x limits. The methodology described in this CEMS Plan will provide a continuous indication of compliance with the above-referenced NO_x emission limits established in the Consent Decree by accurately determining the emission rate in terms of pounds of NO_x emitted per ton of 100% Nitric Acid Produced (lb/ton) as a rolling 3-hour average and a rolling 365-day average. The CEMS will utilize equipment to measure the stack NO_x concentration and the stack volumetric flow rate. The 100% nitric acid production rate will be determined as allowed by NSPS Subpart G. From this data, real-time, accurate, and quality controlled measurements of the mass NO_x emission rate per unit of production can be obtained.

Definitions

Terms used in this CEMS Plan that are defined in the Clean Air Act ("CAA") or in Federal or state regulations promulgated pursuant to the CAA shall have the meaning assigned to them in the CAA or such regulations, unless otherwise defined in the Consent Decree. The terms used in this CEMS Plan that are defined in the Consent Decree shall have the meaning assigned to them therein. The following definitions specifically apply for purposes of this CEMS Plan.

- "CEMS" or "Continuous Emission Monitoring System" shall mean the total equipment, required under this CEMS Plan, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.
- "Covered Nitric Acid Plants" shall mean all ten of LSB's Nitric Acid Plants in the United States that are subject to this Consent Decree: two at the Cherokee Facility (Cherokee #1 and #2); one at the Baytown Facility (Baytown); four at the El Dorado Facility (El Dorado East, El Dorado West, El Dorado DMW, and El Dorado DSN); and three at the Pryor Facility (Pryor #1, #3, and #4);
- "Day," "day," or "calendar day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day;
- "DSCFH" shall mean dry standard cubic feet per hour.
- "Interim NOx Emissions Limit" or "IL" shall mean a 3-hour rolling average NO_x emission limit (rolled hourly) expressed in terms of pounds of NO_x emitted per ton of

100% Nitric Acid Produced ("lb/ton"); compliance with the Interim NO_X Emissions Limit shall be calculated in accordance with this CEMS Plan. The Interim NO_X Emissions Limit does not apply during periods of Startup, Shutdown, or Malfunction;

- "Long-Term NO_X Emissions Limit" or "LTL" shall mean a 365-day rolling average NO_X emission limit (rolled daily) expressed as pounds of NO_X emitted per ton of 100% Nitric Acid Produced ("lb/ton"); compliance with the Long-Term NO_X Emissions Limit shall be calculated in accordance with this CEMS Plan. The Long-Term NO_X Emissions Limit applies at all times, including during periods of Startup, Shutdown, or Malfunction.
- "Malfunction" shall mean, consistent with 40 C.F.R. § 60.2, 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, but shall not include failures that are caused in whole or in part by poor maintenance or careless operation.
- "NSPS NO_X Emissions Limit" shall mean the NO_X emission limit expressed as 1.5 kg of NO_X per metric ton of 100% Nitric Acid Produced (3 lb per ton) specified at 40 C.F.R. §60.72(a)(1).
- "NO_X" shall mean, consistent with 40 C.F.R. § 60.2, all oxides of nitrogen except nitrous oxide. (N_2O). For the purposes of calculating mass emission rates, NO_X has a molecular weight of 46.0055 lb/lb-mol.
- "NO_X Stack Analyzer" shall mean, for all Operating Nitric Acid Plants except the Baytown Plant (at all times) and El Dorado East and West Plants during only the period of required compliance demonstration with the Interim NO_X Emissions Limit under the Consent Decree, that portion of a dual range or greater CEMS that senses NO_X and generates an output proportional to the NO_X concentration during Operating Periods. For the Baytown Plant and El Dorado East and West Plants (during only the period of required compliance demonstration with the Interim NO_X Emissions Limit under the Consent Decree), "NO_X Stack Analyzer" shall mean that portion of a single range CEMS unit that senses NO_X and generates an output proportional to the NO_X concentrations during Operating Periods.
- "100% Nitric Acid" shall mean nitric acid product manufactured by a Nitric Acid Plant multiplied by the concentration of actual nitric acid in the product. For example, if a Nitric Acid Plant produces 100 tons of a 54% nitric acid product, this equals 54 tons of 100% Nitric Acid.
- "One-hour period" and "1-hour period" shall mean any 60-minute period commencing on the hour.
- "One-minute measurement" shall mean any single measurement or the arithmetic average of multiple measurements of a parameter during a one-minute period on-the-clock.
- "Operating Nitric Plants" shall mean any or all of the nine of the ten Covered Nitric Acid Plants that continue, or may continue, to operate as of the Date of Lodging (with El Dorado DSN as the excluded Covered Nitric Acid Plant under this definition due to its permanent shut-down): two at the Cherokee Facility (Cherokee #1 and #2); one at the Baytown Facility (Baytown); three

at the El Dorado Facility (El Dorado East, El Dorado West, and El Dorado DMW); and three at the Pryor Facility (Pryor #1, #3, and #4);Operating Periods" shall mean periods during which an Operating Nitric Acid Plant is producing nitric acid and NO_x is emitted, including periods of Startup, Shutdown and Malfunction; "Short-Term NO_x Emissions Limit" or "STL" shall mean a 3-hour rolling average NO_x emission limit (rolled hourly) expressed in terms of pounds of NO_x emitted per ton of 100% Nitric Acid Produced ("lb/ton"); compliance with the Short-Term NO_x Emissions Limit shall be calculated in accordance with this CEMS Plan. The Short-Term NO_x Emissions Limit does not apply during periods of Startup, Shutdown, or Malfunction.

- "Shutdown" shall mean the cessation of nitric acid production operations of a Operating Nitric Acid Plant for any reason. Shutdown begins at the time the feed of ammonia to the Operating Nitric Acid Plant ceases and ends when the compressor train(s) is shut down."Stack Flowmeter" shall mean that portion of the CEMS that senses the volumetric flow rate and generates an output proportional to that flow rate.
- "Standard Cubic Foot" or "SCF" shall mean a quantity of gas equal to one cubic foot at a temperature of 68° Fahrenheit and a pressure of 14.696 pounds per square inch absolute.
- "Startup" shall mean the process of initiating nitric acid production operations of a Operating Nitric Acid Plant. Startup begins with the start of the compressor train(s) at the Operating Nitric Acid Plant and ends no more than 5 hours after the initiation of the feed of ammonia.
- "Ton" or "tons" shall mean short ton or short tons. One Ton equals 2,000 pounds.

Emissions Monitoring

Emissions monitoring under this CEMS Plan will be done using the appropriate NO_x Stack Analyzer and a stack flowmeter on each Operating Nitric Acid Plant. Except for periods of CEMS breakdowns, analyzer malfunctions, repairs, and required quality assurance or quality control activities (including calibration checks and required zero and span adjustments), Settling Defendants will demonstrate compliance with the STL, IL, and LTL during all Operating Periods by conducting continuous monitoring pursuant to this CEMS Plan at each Operating Nitric Acid Plant, as follows:

- The NO_x Stack Analyzer will measure the stack NO_x concentration, in parts per million by volume, dry basis (ppmvd)[1] and reduce the data to one-minute measurements, and the stack flowmeter will measure the volumetric flow rate in dry standard cubic feet per hour (DSCFH)[2].

[1] For the purposes of calculations under this CEMS Plan, as-is NO_x concentration measurements at Operating Nitric Plants (e.g., those utilizing FTIR, NDIR, or other types of stack gas analyzers capable of making wet measurements) will be assumed to be dry. However, LSB may adjust for any moisture contained in the stack gas if the Operating Nitric Acid Plant is equipped with a continuous moisture analyzer or equipment which removes the moisture prior to the stack gas analyzer.

[2] For the purposes of the calculations under this CEMS Plan, as-is volumetric flow rate measurements will be assumed to be dry. However, LSB may adjust for any moisture contained in the stack gas if the Operating Nitric Acid Plant is equipped with a continuous moisture analyzer.

- For every 1-hour period (60-minute period commencing on the hour), the CEMS will reduce the one-minute measurements generated by the NO_x Stack Analyzer and the stack flowmeter by taking the arithmetic average of all the one-minute measurements made during the previous 1- hour period. At least four one-minute measurements must be used to make this calculation, with at least one data point in each 15-minute quadrant of the hour.

Backup Monitoring Procedure for Long-Term NO_x Emissions Limit

In the event that the NO_x Stack Analyzer and/or stack flowmeter is/are not available or is/are out-of-control, Settling Defendants will implement the backup monitoring procedure specified below. The resulting data will be used to calculate the 365-day average NO_x emission rate.

a) Settling Defendants will comply with the following requirements to fill in data gaps in the array:

    - Exit stack gas will be sampled and analyzed for NO_x at least once every three (3) hours, during all Operating Periods. Sampling will be conducted by making physical measurements of the NO_x concentration in the gas stream to the main stack using alternative/non-CEMS methods (e.g., through the use of a portable analyzer/detector or non-certified NO_x Stack Analyzer). The reading obtained will be substituted for the 180 (or less) one-minute measurements that would otherwise be utilized if the CEMS were operating normally. Alternatively, Settling Defendants may conduct the required sampling and analysis using a redundant, certified NO_x Stack Analyzer.

    - Stack volumetric flow rate will be estimated using engineering judgment.

b) During required quality assurance or quality control activities (including calibration checks and required zero and span adjustments) of the CEMS and stack flow meter, Settling Defendants may utilize either (1) the previous calendar day average when the previous day does not include a Startup, Shutdown, or Malfunction, or (2) the average of the block hour average immediately preceding the affected analyzer's(s') stoppage and the initial block hour average of the affected analyzer's(s') upon the resumption of operation following the stoppage, when the previous calendar day includes a Startup, Shutdown or Malfunction, to fill in any data gaps in lieu of the procedures specified in subparagraph a).

c) If any one or more than one of the CEMS or stack flowmeter is/are not operating for a period of less than 24 consecutive hours due to breakdowns, malfunctions, repairs, or out-of-control period of the same, Settling Defendants may utilize either (1) the previous calendar day average when the previous day does not include a Startup, Shutdown, or Malfunction, or (2) the average of the block hour average immediately preceding the affected analyzer's(s') stoppage and the initial block hour average of the affected analyzer's(s') upon the resumption of operation following the stoppage, when the previous calendar day includes a Startup, Shutdown or Malfunction, to fill in any data gaps in lieu of the procedures specified in subparagraph a).

Production Data

Following each calendar day at each Operating Nitric Acid Plant, as allowed by NSPS Subpart G, Settling Defendants will record the quantity of nitric acid produced during that day and the average strength of the nitric acid produced during that day. From this information, Settling Defendants will calculate the 100% Nitric Acid Produced for that day, in units of tons per day.

Conversion Factor

During each performance test for each Covered Nitric Acid Plant required under Paragraph 19 of the Consent Decree, Settling Defendants will develop a conversion factor, in units of lb/ton of 100% Nitric Acid Produced per lb/hr NO_X. The conversion factor will be developed consistent with the procedures in 40 C.F.R. §60.73(b). Subsequently, Settling Defendants will reestablish the conversion factors during each Relative Accuracy Test Audit conducted in accordance with 40 C.F.R. Part 60, Appendix F.

Emissions Calculations

Rolling 3-Hour Average

Compliance with the STL and IL shall be based on a rolling 3-hour average (rolled hourly). For purposes of calculating a rolling 3-hour average NO_X emission rate, the CEMS will maintain an array of the 3 most recent and contiguous 1-hour period average measurements of the NO_X concentration measurement (ppmvd) at the exit stack and the average volumetric flow rate measurement (DSCFH) of the exit stack. Every hour, it will add the most recent 1-hour period value to the array and exclude the oldest 1-hour period value. Data generated using the backup monitoring procedure specified above need not be included in this calculation. Any data generated during periods that are not Operating Periods will not be included in this calculation.

The rolling 3-hour average lb/ton NO_X emission rate (E_{3hravg}) will then be calculated every hour using Equation 1.

Equation 1:

$$E_{3hravg} = \frac{K \cdot 1.193 \times 10^7 \sum_{i=1}^{3} Qstack_i \cdot C_{NOx\,i}}{3}$$

Where:

$C_{NOx\,i}$ = Arithmetic average of all one-minute measurements of stack NO_X concentration, parts per million by volume, dry basis (ppmvd) during 1-hour period "*i*"Q

K = Conversion factor determined during the most recent NO_X performance test or RATA (lb NO_X/ton of 100% nitric acid produced per lb/hr NO_X)

$Q_{Stack}\, i$ = Arithmetic average of all one minute measurements of stack volumetric flow rate. DSCFH during one hour period "*i*"

1.193 x 10^7 = Conversion factor in units of pounds per standard cubic foot (lb/SCF) NO_X per ppm

E_{3hravg} = 3-hour average lb NO_X per ton 100% Nitric Acid Produced

Rolling 365-Day Average

Compliance with the LTL shall be based on a rolling 365-day average (rolled daily). For the purposes of calculating the 365-day average NO_X emission rate each calendar day at each Operating Nitric Acid Plant, Settling Defendants will maintain an array of the mass emissions (lb/day) of NO_X (calculated using Equation 2) and the 100% Nitric Acid Produced for that day (tons/day) and the preceding 364 days. Each subsequent day, the data from that day will be added to the array, and the data from the oldest day will be excluded.

For the purposes of calculating the daily mass emission rate, the CEMS will maintain an array of each one-hour average NO_X concentration measurement (ppmvd) at the exit stack and each one-hour average volumetric flow rate measurement (DSCFH) of the exit stack over each day. Any partial hourly data will be adjusted on a *pro-rata* basis. In the event that one or more of the NO_X Stack Analyzers and stack flowmeters is/are not available, Settling Defendants will use the backup monitoring procedure, specified above, to fill in the data gaps. Any data generated during periods that are not Operating Periods will not be included in this calculation.

Following each calendar day, the daily NO_X mass emissions will be calculated using Equation 2.

Equation 2:

$$M_{NO_xDay} = 1.193 \times 10^{-7} \cdot \sum_{i=1}^{n} Q_{Stack\,i} \cdot C_{NOx\,i}$$

Where:

$C_{NOx\,i}$ = Arithmetic average of all one-minute measurements of stack NO_X concentration, parts per million by volume, dry basis (ppmvd) during 1-hour period "*i*"

$Q_{Stack\,i}$ = Arithmetic average of all one-minute measurements of stack volumetric flow rate, DSCFH during 1-hour period "*i*"

1.193×10^{-7} = Conversion factor in units of pounds per standard cubic foot (lb/SCF) NO_X per ppm

M_{NO_xDay} = Mass emissions of NO_X during a calendar day, lb

n = Number of hours of Operating Period in a calendar day

Following each calendar day, the NO_X emission rate as lb/ton, averaged over a rolling 365-day period ($E_{365-Day\,Avg}$), will be calculated using Equation 3.

Equation 3:

$$E_{365-Day\,Avg} = \frac{\sum_{d=1}^{365} M_{NO_xDay\,d}}{\sum_{d=1}^{365} P_d}$$

Where:

$M_{NO_xDay\,d}$ = Mass emissions of NO_X during a calendar day "*d*", lb

P_d = 100% Nitric Acid Produced during a calendar day "*d*", tons

$E_{365-Day\,Avg}$ = 365-day rolling average lb NO_X per ton of 100% Nitric Acid Produced

Rounding of Numbers Resulting from Calculations

Upon completion of the calculations, the final numbers shall be rounded as follows:

E_{3hravg}: Rounded to the nearest tenth.

$E_{365-Day\,Avg}$: Rounded to the nearest hundredth.

The numbers "5"-"9" shall be rounded up, and the numbers "1"-"4" shall be rounded down. Thus, "1.05"shall be rounded to "1.1", and "1.04" shall be rounded to "1.0".

Compliance with Consent Decree NO_X Limits

Short-Term NO_X Emissions Limits and Interim NOx Emissions Limits

The STLs and ILs do not apply during periods of Startup, Shutdown, or Malfunction. During all other Operating Periods at an Operating Nitric Acid Plant, Settling Defendants will be in compliance with the STL specified in the Consent Decree if E_{3hravg} does not exceed 1.0 lb of NO_X per ton of 100% Nitric Acid Produced and Settling Defendants will be in compliance with the IL specified in the Consent Decree if E_{3hravg} does not exceed 3.0 lb of NO_X per ton of 100% Nitric Acid Produced. If Settling Defendants contend that any 3-hour rolling average emission rate is in excess of 1.0 lb/ton for the STL or 3.0 lb/ton for the IL due to the inclusion of hours of Startup, Shutdown or Malfunction in the 3-hour period, Settling Defendants shall recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Startup, Shutdown or Malfunction(s).

NSPS NO_X Emissions Limits

The NSPS NO_X Emissions Limit does not apply during periods of Startup, Shutdown, or Malfunction. During all other Operating Periods at a Operating Nitric Acid Plant, Settling Defendants will be in compliance with the NSPS Limit if E_{3hravg} does not exceed 3.0 lb of NO_X per ton of 100% Nitric Acid Produced. If Settling Defendants contend that any 3-hour rolling average emission rate is in excess of 3.0 lb/ton due to the inclusion of hours of Startup, Shutdown or Malfunction in the 3-hour period, Settling Defendants shall recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Startup, Shutdown or Malfunction(s). Nothing in this CEMS Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a Operating Nitric Acid Plant would have been in compliance with the NSPS NO_X Emissions Limit if the appropriate performance test or compliance procedure had been performed.

Long-Term NO_X Emissions Limits

Settling Defendants will be in compliance with the LTL specified in the Consent Decree if $E_{365\text{-}Day\ Avg}$ does not exceed 0.60 lb of NO_X per ton of 100% Nitric Acid Produced. The LTL applies during all Operating Periods, including during periods of Startup, Shutdown, or Malfunction.

Retention of All CEMS Data, including Data, during Startup, Shutdown, and Malfunction

Settling Defendants will retain all data generated by the appropriate NO_X Stack Analyzer and Stack Flowmeter, including all data generated during periods of Startup, Shutdown, and/or Malfunction at each Operating Nitric Acid Plant in accordance with Section XIII of the Consent Decree (Information Collection and Retention).

Analyzer and Stack Flowmeter Specifications

The appropriate NO_X Stack Analyzers and the Stack Flowmeters required under this CEMS Plan at each Operating Nitric Acid Plant will meet the following specifications:

Table 1

Analyzer	Parameter	Location	Span Value
NO_x Stack Analyzers	NO_x, ppm by volume, dry basis	Stack	Dual Range or greater: Normal: 0 – 500 ppm NO_x, or as appropriate to accurately measure the normal concentration range. SSM: 0 to 125% of the maximum estimated NO_x emission concentration during the Operating Periods. Baytown Single Range: Normal and SSM: 0-200 ppm NO_x, or as appropriate to accurately measure the normal concentration range. El Dorado East and West Single Range (during IL compliance period only): Normal: 0-500 ppm NO_x
Stack Flowmeter	Volumetric Flow rate, SCFH	Stack	0 to 125% of the maximum expected volumetric flow rate

Further specifications for each Operating Nitric Acid Plant under this CEMS Plan are as follows:

- For the Plants utilizing dual range or greater NO_X Stack Analyzers (all Operating Nitric Acid Plants except the Baytown Plant and El Dorado East and West Plants during only the period of required IL compliance):
  - The NOx Stack Analyzer will meet all applicable requirements of 40 C.F.R. §60.11, §60.13, 40 C.F.R. Part 60, Appendix B, Performance Specification 2, and the Quality Assurance and Quality Control Procedures in 40 C.F.R. Part 60, Appendix F, Procedure 1. It should be noted, however, that the daily drift test requirement at 40 C.F.R. §60.13(d) and the requirements of Appendix F apply only to the normal range of the NO_X Stack Analyzers with a dual or greater range.
  - The SSM range of the NO_X Stack Analyzers will be evaluated once each calendar quarter, or at the next startup and shutdown opportunity if an evaluation cannot be performed during the calendar quarter, to verify accuracy. For the stack analyzer evaluations at each such Operating Nitric Acid Plant, sampling will be conducted by making physical measurements of the NO_X concentration in the gas stream to the main stack using an alternative/non-CEMS method(s) approved by the permitting authority (e.g., stack sampling and analysis, through the use of a portable analyzer/detector, or non-certified NO_X stack analyzer).

- For the Plants utilizing single range NO_X Stack Analyzers (the Baytown Plant and El Dorado East and West Plants during only the period of required IL compliance):

- The NOx Stack Analyzer will meet all applicable requirements of 40 C.F.R. §60.11, §60.13, 40 C.F.R. Part 60, Appendix B, Performance Specification 2, and the Quality Assurance and Quality Control Procedures in 40 C.F.R. Part 60, Appendix F, Procedure 1. The daily drift test requirement at 40 C.F.R. §60.13(d) and the requirements of Appendix F apply to the span of the NO_X Stack Analyzer.
- For the stack analyzer evaluations at each such Operating Nitric Acid Plant, sampling will be conducted by making physical measurements of the NO_X concentration in the gas stream to the main stack using an alternative/non-CEMS method(s) approved by the permitting authority (e.g., stack sampling and analysis, through the use of a portable analyzer/detector, or non-certified NO_X stack analyzer).
- The range of the Baytown NO_X Stack Analyzer will be evaluated once each calendar year during the annual RATA using the Quality Assurance and Quality Control Procedures in 40 C.F.R. Part 60, Appendix F, Procedure 1

- For the Stack Flowmeters at all Operating Nitric Acid Plants:

  - For the Baytown Plant only, the stack flow meter will meet 40 C.F.R. Part 60, Appendix B, Performance Specification 6 and will be evaluated once each calendar year during the RATA to verify accuracy.
  - At all other Operating Nitric Acid Plants except Baytown, the stack flow meters will meet 40 C.F.R. Part 60, Appendix B, Performance Specification 6 and will be evaluated once each calendar quarter and during the RATA of the appropriate NO_X Stack Analyzer to verify accuracy.

<u>**Compliance with the NSPS: 40 C.F.R. Part 60, Subpart G**</u>

In addition to the requirements in this CEMS Plan, Settling Defendants also will comply with all of the requirements of the NSPS relating to monitoring at each Operating Nitric Acid Plant except that, pursuant to 40 C.F.R. §60.13(i), this CEMS Plan will supersede the following provisions of 40 C.F.R. Part 60, Subpart G:

- The requirement at 40 C.F.R. §60.73(a) that the NO_X stack analyzers have a normal span value of 500 ppm. In lieu of this, Settling Defendants will utilize the span values specified in Table 1 of this CEMS Plan; and
- The requirement at 40 C.F.R. § 60.73(a) that pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 C.F.R. §60.13(d) be nitrogen dioxide (NO_2). Settling Defendants will use calibration gases containing NO and/or NO_2, as appropriate to assure accuracy of the NO_X Stack Analyzers except where verified reference cells are used in accordance with Performance Specification 2.
- The requirement at 40 C.F.R. §60.73(b) that the conversion factor be developed/expressed in the units of lb NOx per ton of 100% nitric acid produced per ppm. In lieu of this requirement, Settling Defendants will develop/express the conversion factor in the units of lb NO_X per ton of 100% nitric acid produced per lb/hr NO_X.

CERTIFICATE OF SERVICE

I, Pamela Owen, hereby certify that a copy of this permit has been mailed by first class mail to El Dorado Chemical Company, P.O. Box 231, El Dorado, AR, 71730, on this 23rd day of June, 2016.

Pamela Owen

Pamela Owen, ASIII, Air Division