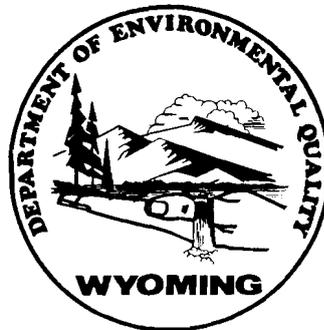


**AIR QUALITY DIVISION**  
**CHAPTER 6, SECTION 3**  
**OPERATING PERMIT**

**WYOMING DEPARTMENT OF**  
**ENVIRONMENTAL QUALITY**  
**AIR QUALITY DIVISION**  
122 West 25th Street  
Cheyenne, Wyoming 82002



**PERMIT NO. 31-084**

Issue Date: **May 26, 2004**  
Expiration Date: **November 25, 2008**  
Effective Date: **May 26, 2004**  
Replaces Permit No.: **30-084**

In accordance with the provisions of W.S. §35-11-203 through W.S. §35-11-212 and Chapter 6, Section 3 of the Wyoming Air Quality Standards and Regulations,

**FMC Wyoming Corporation**  
**FMC Granger Caustic Soda**  
**NW¼, Section 36, T20N-R111W**  
**Sweetwater County, Wyoming**

is authorized to operate a stationary source of air contaminants consisting of emission units described in this permit. The units described are subject to the terms and conditions specified in this permit. All terms and conditions of the permit are enforceable by the State of Wyoming. All terms and conditions of the permit, except those designated as not federally enforceable, are enforceable by EPA and citizens under the Act. A copy of this permit shall be kept on-site at the above named facility.

Dan Olson, Administrator  
Air Quality Division

5/27/04  
Date

John V. Corra, Director  
Department of Environmental Quality

5/28/04  
Date

# WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

## WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

### TABLE OF CONTENTS

|   |    |
|---|----|
| General Information .....   | 3  |
| Source Emission Points .....  | 4  |
| Total Facility Estimated Emissions .....  | 4  |
| Facility-Specific Permit Conditions .....   | 5  |
| Source-Specific Permit Conditions .....   | 5  |
| Testing Requirements .....  | 5  |
| Monitoring Requirements .....   | 5  |
| Recordkeeping Requirements .....  | 6  |
| Reporting Requirements .....  | 7  |
| WAQSR Chapter 5, Section 2 and 40 CFR 60 Subpart Db Requirements .....              | 10 |
| WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM) Requirements ..... | 11 |
| Compliance Certification and Schedule .....   | 13 |
| Compliance Certification .....  | 13 |
| Compliance Schedule .....   | 13 |
| General Permit Conditions .....   | 14 |
| State Only Permit Conditions .....  | 19 |
| Summary of Source Emission Limits and Requirements .....                            | 21 |
| Abbreviations .....   | 23 |
| Definitions .....   | 24 |
| Appendix A: 40 CFR 60 Subpart Db  |    |
| Appendix B: Compliance Assurance Monitoring (CAM) Plan                              |    |
| Appendix C: WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM)        |    |



### SOURCE EMISSION POINTS

This table may not include any or all insignificant activities at this facility.

| <b>SOURCE ID#</b> | <b>SOURCE DESCRIPTION</b>  | <b>SIZE</b>    | <b>CH 6, SEC 3 PERMITS</b> |
|-------------------|----------------------------|----------------|----------------------------|
| UIN-C01           | No. 3 Boiler               | 200.0 MMBtu/hr | OP-255                     |
| UIN-C03           | Lime Silo/Bin (baghouse)   | 5000 acfm      | OP-255                     |
| UIN-C04           | Lime Slaker (wet scrubber) | 3200 acfm      | OP-255                     |
| UIN-C05           | Emergency Generator Engine | 860 hp         | None                       |
| UIN-C06           | Cooling Tower - Caustic    | 10,000 gpm     | None                       |

### TOTAL FACILITY ESTIMATED EMISSIONS

For informational purposes only. These emissions are not to be assumed as permit limits.

| <b>POLLUTANT</b>                               | <b>EMISSIONS (TPY)</b> |
|--|------------------------|
| <b>CRITERIA POLLUTANT EMISSIONS*</b>           |                        |
| Particulate Matter                             | 12.2                   |
| PM <sub>10</sub> Particulate Matter            | 12.2                   |
| Sulfur Dioxide (SO <sub>2</sub> )              | Negligible             |
| Nitrogen Oxides (NO <sub>x</sub> )             | 127.8                  |
| Carbon Monoxide (CO)                           | 80.3                   |
| Volatile Organic Compounds (VOCs)              | 0.2                    |
| <b>HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS</b> | Negligible             |

\* Emission estimates are from the operating permit application.

## FACILITY-SPECIFIC PERMIT CONDITIONS

### Source-Specific Permit Conditions

- (F1) **VISIBLE EMISSIONS** [WAQSR Ch 3, Sec 2]
- (a) Unless a lower limit is specified elsewhere in this permit, visible emissions of any contaminant discharged into the atmosphere from any single source of emission shall not exhibit greater than 20 percent opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40 percent.
  - (b) Visible emissions from the Emergency Generator Engine (unit UIN-C05) shall be limited to 30 percent opacity except for periods not exceeding ten consecutive seconds. This limitation shall not apply during a reasonable period of warmup following a cold start or where undergoing repairs and adjustment following a malfunction.
- (F2) **NO. 3 BOILER EMISSIONS** [WAQSR Ch 6, Sec 2 Permit OP-255]  
The No. 3 Boiler (unit UIN-C01) shall be maintained and operated with NO<sub>x</sub> emissions no greater than 0.14 lb/MMBtu heat input. Maximum hourly emissions shall be limited to 28.00 lb/hr NO<sub>x</sub> and 18.15 lb/hr CO.
- (F3) **LIME SILO/BIN EMISSIONS** [WAQSR Ch 6, Sec 2 Permit OP-255]  
Particulate matter emissions from the Lime Silo/Bin (unit UIN-C03) shall be limited to 0.67 lb/hr.
- (F4) **LIME SLAKER EMISSIONS** [WAQSR Ch 6, Sec 2 Permit OP-255]  
Particulate matter emissions from the Lime Slaker (unit UIN-C04) shall be limited to 0.43 lb/hr.

### Testing Requirements

- (F5) **EMISSIONS TESTING** [W.S. 35-11-110]
- (a) The Division reserves the right to require testing as provided under condition G1 of this permit. Should testing be required,
    - (i) Method 9 shall be used to measure visible emissions.
    - (ii) For NO<sub>x</sub> emissions, Methods 1-4 and 7 or 7E shall be used.
    - (iii) For CO emissions, Methods 1-4 and 10 shall be used.
    - (iv) For other pollutants, methods approved by the Administrator prior to testing shall be used to measure emissions.
  - (b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2 (h).

### Monitoring Requirements

- (F6) **VISIBLE AND PARTICULATE MATTER EMISSIONS MONITORING** [WAQSR Ch 6, Sec 3 (h)(i)(C)(I)]
- (a) In lieu of periodic monitoring for visible emissions from the No. 3 Boiler (unit UIN-C01), the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for this unit.
  - (b) The permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix B of this permit, for particulate emissions from the baghouse controlled Lime Silo/Bin (unit UIN-C03) and shall conduct monitoring as follows:
    - (i) The permittee shall conduct, at minimum once daily, visual observations of the baghouse controlled Lime Silo/Bin Vent to determine the presence of visible emissions.
    - (ii) The visual observations shall be conducted by a person who is educated on the procedures for determining the presence of visible emissions in accordance with Method 22.
    - (iii) Observation of visible emissions from the Lime Silo/Bin baghouse shall prompt immediate inspection and, if necessary, corrective action and reporting.
    - (iv) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-5 of this permit.
  - (c) The permittee shall conduct monitoring for the wet scrubber controlled Lime Slaker (unit UIN-C04), which is not regulated under CAM, as follows:

- (i) The permittee shall conduct, at minimum, weekly observations of visible emissions from the wet scrubber controlled Lime Slaker.
- (ii) The visual observations shall be conducted by a person who is educated on the procedures for determining the presence of visible emissions in accordance with Method 22.
- (iii) Observation of visible emissions from the wet scrubber controlled Lime Slaker shall prompt immediate corrective action.
- (iv) The permittee shall operate and maintain the Lime Slaker wet scrubber in accordance with the manufacturer's specifications and recommendations.
- (v) Visual monitoring combined with adherence to the manufacturer's specifications and recommendations for maintaining the wet scrubber shall serve as surrogate to periodic monitoring for particulate emissions.

(F7) BOILER EMISSIONS MONITORING

[WAQSR Ch 6, Sec 2 Permit OP-255, 40 CFR 60 Subpart Db, and WAQSR Ch 6, Sec 3 (h)(i)(C)(1)]

- (a) The permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of that system, for measuring NO<sub>x</sub> emissions discharged to the atmosphere. Monitoring shall meet all the requirements specified in §60.48b (d), (e), and (f) and Ch 5, Sec 2(j). In addition, the permittee shall monitor the boiler exhaust flow for calculating mass emissions in lb/hr.
  - (i) The NO<sub>x</sub> continuous emissions monitoring system shall be operated and data recorded during all periods of operation of the No. 3 Boiler (unit UIN-C01) except during breakdown and repairs of that monitoring system. Data shall be recorded during calibration checks and zero and span adjustments.
  - (ii) Zero and span calibration drifts shall be checked at least once daily as required by Ch 5, Sec 2(j)(iv).
  - (iii) The monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.
  - (iv) One-hour averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages. The one-hour average emission rate shall be expressed in lb/million Btu heat input. At least 2 data points must be used to calculate each one-hour average.
  - (v) When NO<sub>x</sub> emission data are not obtained from the continuous emission monitoring system, the procedures described in §60.48b (f) shall be followed.
- (b) Periodic monitoring of CO emissions from the boiler stack is not required since CO emissions from this unit are of trivial environmental importance.

Recordkeeping Requirements

(F8) TEST RECORDS [WAQSR Ch 6, Sec 3 (h)(i)(C)(II)]

- (a) For any testing required by the Division under condition F5 other than Method 9 observations, the permittee shall record, as applicable, the following:
  - (i) The date, place, and time of sampling or measurements;
  - (ii) The date(s) the analyses were performed;
  - (iii) The company or entity that performed the analyses;
  - (iv) The analytical techniques or methods used;
  - (v) The results of such analyses; and
  - (vi) The operating conditions as they existed at the time of sampling or measurement.
- (b) For any Method 9 observations required by the Division under condition F5(a)(i), the permittee shall keep field records in accordance with Section 2.2 of Method 9.
- (c) The permittee shall retain on-site at the facility the record of each test, measurement, or observation and support information for a period of at least five years from the date of the test, measurement, or observation.

- (F9) LIME SILO/BIN AND LIME SLAKER EMISSIONS MONITORING RECORDS  
[WAQSR Ch 6, Sec 3 (h)(i)(C)(II) and WAQSR Ch 7, Sec 3 (i)(ii)]
- (a) For the visible emissions monitoring specified under conditions F6(b) and (c) of this permit, the permittee shall record, as applicable, the following:
    - (i) The date, place, and time of the observation;
    - (ii) The company or individual that performed the observation;
    - (iii) The observation techniques or methods used;
    - (iv) The observation results;
    - (v) The operating conditions as they existed at the time of the observation; and
    - (vi) Any corrective actions taken upon observing visible emissions or detecting noncompliance with opacity limitations.
  - (b) For the CAM required under condition F6(b), the permittee shall also maintain records of corrective actions taken, any written Quality Improvement Plan (QIP) required pursuant to WAQSR Chapter 7, Section 3(h), any activities undertaken to implement a QIP, and other supporting information required to be maintained under WAQSR Chapter 7, Section 3.
  - (c) The permittee shall retain on-site at the facility the records specified under paragraphs (a) and (b) of this condition for a period of at least five years from the date such records are generated.
- (F10) MAINTENANCE RECORDS [WAQSR Ch 6, Sec 3 (h)(i)(C)(II)]
- (a) The permittee shall record all maintenance activities performed on the Lime Slaker wet scrubber (unit UIN-C04).
  - (b) The record of maintenance activities for the unit shall include:
    - (i) The maintenance activity performed;
    - (ii) The date, place, and time the activity was performed;
    - (iii) The company and individual(s) that performed the activity;
    - (iv) The purpose of the activity; and
    - (v) An explanation for any deviation from the manufacturer's recommendations.
  - (c) The permittee shall retain on-site at the facility the record of each maintenance activity for the unit for a period of at least five years from the date of the maintenance activity.
- (F11) BOILER EMISSIONS MONITORING RECORDS [WAQSR Ch 6, Sec 3 (h)(i)(C)(II), WAQSR Ch 5, Sec 2 (g), and 40 CFR 60 Subpart Db]
- (a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the No. 3 Boiler (unit UIN-C01); or any periods during which the NO<sub>x</sub> continuous emission monitoring system is inoperative.
  - (b) The permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; reports; and other information required by the NSPS conditions of this permit recorded in a permanent form suitable for inspection.
  - (c) The permittee shall meet all recordkeeping requirements specified in §60.49b (d) for calculating the annual capacity factor, and §60.49b (g) for NO<sub>x</sub> emissions.
  - (d) Records of the boiler exhaust flow monitored as required by condition F7
  - (e) The permittee shall retain all records required by this condition, on site at this facility for a period of at least five years from the date of measurement or recording.

Reporting Requirements

- (F12) BOILER NO<sub>x</sub> EMISSIONS MONITORING REPORTS [WAQSR Ch 6, Sec 2 Permit OP-255, Ch 5, Sec 2 (g), and 40 CFR 60 Subpart Db]
- (a) The permittee shall submit a No. 3 Boiler (unit UIN-C01) excess emissions and monitoring systems performance reports for the NO<sub>x</sub> emission limits in condition F2 and the Subpart Db NO<sub>x</sub> emission limit in condition P60-Db1 (excess emissions are defined in paragraph (b) of this condition), and/or summary

report forms to the Administrator quarterly. All reports shall be postmarked by the 30th day following the end of each calendar quarter. Written reports of excess emissions shall include the following information:

- (i) The magnitude of excess emissions computed in accordance with WAQSR Chapter 5, Section 2 (j)(viii), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.
  - (ii) Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the No. 3 Boiler. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
  - (iii) The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of the system repairs or adjustments.
  - (iv) For the Subpart Db emission limit, the additional information listed in §63.49b(g).
  - (v) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
  - (vi) One summary report form for NO<sub>x</sub> emissions from the No. 3 Boiler in a format approved by the Division.
    - (A) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and continuous monitoring system downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in sections (a)(i-v) of this condition need not be submitted unless requested by the Administrator.
    - (B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total continuous monitoring system downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in sections (a)(i-v) of this condition shall both be submitted.
- (b) For the purpose of reporting under this condition, excess emissions are defined as
- (i) any one-hour period when the average NO<sub>x</sub> emissions exceed 28.00 lb/hr
  - (ii) any one-hour period when the average NO<sub>x</sub> emissions exceed 0.14 lb/MMBtu heat input, or
  - (iii) any calculated 30 day rolling average NO<sub>x</sub> emission rate, as determined under §60.46b(e), which exceeds 0.20 lb/MMBtu heat input.
- (c) The permittee may reduce the frequency of reporting required in paragraph (a) of this condition to semiannual if the conditions described in WAQSR Chapter 5, Section 2 (g)(iv) are met. Any reduction in reporting frequency requires a significant modification to this operating permit pursuant to WAQSR Chapter 6, Section 3(d)(vi)(C).
- (d) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

**(F13) VISIBLE AND PARTICULATE EMISSIONS MONITORING REPORTS**

[WAQSR Ch 6, Sec 3 (h)(i)(C)(III) and Ch 7, Sec 3 (i)(i)]

- (a) The following shall be reported to the Division by January 31 and July 31 each year:
- (i) Documentation the No. 3 Boiler (unit UIN-C01) is firing natural gas as specified in condition F6(a) of this permit.
  - (ii) Summary results of the visible emissions monitoring required under conditions F6(b) and (c) of this permit; only monitoring during which visible emissions are observed shall be included in the report with a brief description of any corrective actions taken upon observing visible emissions. If no visible emissions are observed during the reporting period, this shall be stated in the report.
  - (iii) Additionally, the results of Compliance Assurance Monitoring (CAM) required under condition F6(b) of this permit for the baghouse controlled Lime Silo/Bin (unit UIN-C03) shall include the following:
    - (A) Summary information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken;
    - (B) A description of the action taken to implement a QIP (if required) during the reporting period as specified in Chapter 7, Section 3 (h). Upon completion of a QIP, the permittee shall

include in the next summary report documentation that the implementation of the plan has reduced the likelihood of similar excursions.

- (b) All instances of deviations from visible and particulate emission limits and monitoring requirements must be clearly identified in each report.
- (c) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F14) SEMIANNUAL MAINTENANCE REPORTS [WAQSR Ch 6, Sec 3 (h)(i)(C)(III)]

- (a) The permittee shall report to the Division by January 31 and July 31 each year whether the permittee has adhered to the manufacturers' specifications and recommendations for maintaining the Lime Slaker wet scrubber (unit UIN-C04).
- (b) Any deviations from the manufacturers' specifications and recommendations for maintaining the unit must be clearly identified in each report.
- (c) If the permittee has adhered to the manufacturer's specifications and recommendations for maintaining the unit during the reporting period, this shall be stated in the report.
- (d) The reports shall be submitted to the Division in accordance with condition G4 of this permit.

(F15) REPORTING EXCESS EMISSIONS & DEVIATIONS FROM PERMIT REQUIREMENTS  
[WAQSR Ch 6, Sec 3 (h)(i)(C)(III)]

- (a) General reporting requirements are described under the General Conditions of this permit. The Division reserves the right to require reports as provided under condition G1 of this permit.
- (b) Emissions which exceed the limits specified in this permit and that are not reported under a different condition of this permit shall be reported annually with the emission inventory, unless specifically superseded by condition G17, condition G21, or other condition(s) of this permit. The probable cause of such exceedance, the duration of the exceedance, the magnitude of the exceedance, and any corrective actions or preventative measures taken shall be included in this annual report. For sources and pollutants which are not continuously monitored, if at any time emissions exceed the limits specified in this permit by 100 percent, or if a single episode of emission limit exceedance spans a period of 24 hours or more, such exceedance shall be reported to the Division within one working day of the exceedance. (Excess emissions due to an emergency shall be reported as specified in condition G17. Excess emissions due to abnormal conditions or equipment malfunction shall be reported as specified in condition G21.)
- (c) Any other deviation from the conditions of this permit shall be reported to the Division in writing within 30 days of the deviation or discovery of the deviation.

**WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)**  
**AND 40 CFR 60 SUBPART Db REQUIREMENTS**  
(Subpart Db is provided in Appendix A)

- (P60-Db1)        EMISSION LIMITS AND MONITORING REQUIREMENTS  
                  [WAQSR Ch 6, Sec 2 Permit OP-255, 40 CFR 60 Subpart Db, and WAQSR Ch 5, Sec 2]  
The permittee shall meet all requirements of 40 CFR 60 Subpart Db and WAQSR Chapter 5, Section 2 as they apply to the No. 3 Boiler (unit UIN-C01).
- (a)            The permittee shall meet the standard specified in §60.44b (a)(1)(ii) at all times, including periods of startup, shutdown, and malfunction. Compliance with this standard is determined on a 30-day rolling average basis.
- (b)            For streamlining purposes, periodic monitoring requirements for NO<sub>x</sub> emissions from the boiler stack are listed under condition F7 of this permit.
- (P60-Db2)        RECORDKEEPING [40 CFR 60 Subpart Db and WAQSR Ch 5, Sec 2 (g)(ii) and (g)(v)]  
For streamlining purposes, all of the recordkeeping requirements of this subpart are included with other recordkeeping requirements for the boiler listed in condition F11 of this permit. These records shall be retained on-site at the facility for a period of at least five years from the date such records are generated.
- (P60-Db3)        EXCESS EMISSIONS AND MONITORING SYSTEM PERFORMANCE REPORTS  
                  [40 CFR 60 Subpart Db and WAQSR Ch 5, Sec 2 (g)(iii)]  
For streamlining purposes, the excess emissions and monitoring system performance report requirements are included in permit condition F12 of this permit.
- (P60-Db4)        GOOD AIR POLLUTION CONTROL PRACTICE [WAQSR Ch 5, Sec 2 (i)(iv)]  
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the No. 3 Boiler including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

**WAQSR CHAPTER 7, SECTION 3**  
**COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS**

- (CAM-1)      **COMPLIANCE ASSURANCE MONITORING REQUIREMENTS [WAQSR Ch 7, Sec 3 (b)and (c)]**  
The permittee shall follow the CAM plan attached as Appendix B of this permit and meet all CAM requirements of WAQSR Chapter 7, Section 3 as they apply to particulate emissions from the baghouse controlled Lime Silo/Bin (unit UIN-C03). Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Chapter 7, Section 3, except for additional requirements specified under conditions CAM-2 through CAM-4.
- (CAM-2)      **OPERATION OF APPROVED MONITORING [WAQSR Ch 7, Sec 3 (g)]**
- (a)      At all times, the permittee shall maintain the monitoring under this section, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
  - (b)      Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant specific emissions unit is operating.
  - (c)      Upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emission unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices. The response shall include minimizing the period of any start-up, shutdown or malfunction and taking any corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion.
  - (d)      If the permittee identifies a failure to achieve compliance with an emission limit for which the monitoring did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing documents a need to modify the existing indicator ranges, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes.
- (CAM-3)      **QUALITY IMPROVEMENT PLAN (QIP) REQUIREMENTS [WAQSR Ch 7, Sec 3 (h)]**
- (a)      If the Division or the EPA Administrator determines, based on available information, that the permittee has used unacceptable procedures in response to an excursion or exceedance, the permittee may be required to develop and implement a Quality Improvement Plan (QIP).
  - (b)      If required, the permittee shall maintain a written Quality Improvement Plan (QIP) and have it available for inspection.
  - (c)      The plan shall include procedures for conducting one or more of the following:
    - (i)      Improved preventative maintenance practices.
    - (ii)      Process operation changes.
    - (iii)      Appropriate improvements to control methods.
    - (iv)      Other steps appropriate to correct control.
    - (v)      More frequent or improved monitoring (in conjunction with (i) - (iv) above).
  - (d)      If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
  - (e)      Following implementation of a QIP, upon any subsequent determination under paragraph (a) above, the Division may require the permittee to make reasonable changes to the QIP if the QIP failed to address the cause of control device problems, or failed to provide adequate procedures for correcting control device problems as expeditiously as practicable.
  - (f)      Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limit(s) or any existing monitoring, testing, reporting, or recordkeeping requirements that may be applicable to the facility.

(CAM-4) SAVINGS PROVISIONS [WAQSR Ch 7, Sec 3 (j)]

Nothing in the CAM regulations shall excuse the permittee from compliance with any existing emission limit or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may be applicable to the facility.

(CAM-5) UNIT 4 IMPLEMENTATION PLAN AND SCHEDULE [WAQSR Ch 7, Sec 3 (d)(v)]

The permittee shall adhere to the following schedule for compliance assurance monitoring of particulate matter emissions from the baghouse controlled Lime Silo/Bin (unit UIN-C03):

| Milestone   | Date  |
|---|---|
| If the FMC Granger Caustic Soda facility is in operation at the time the operating permit renewal is issued, the permittee shall commence compliance assurance monitoring     | 30 days after the issuance date found on the front page of this permit. |
| If the FMC Granger Caustic Soda facility is not in operation at the time the operating permit renewal is issued, the permittee shall commence compliance assurance monitoring | Upon startup of the facility.   |

## COMPLIANCE CERTIFICATION AND SCHEDULE

### Compliance Certification [WAQSR Ch 6, Sec 3 (h)(iii)(E)]

- (C1) (a) The permittee shall submit by January 31 each year a certification addressing compliance with the requirements of this permit. The certification shall be submitted as a stand-alone document separate from any monitoring reports required under this permit.
- (b) (i) For visible emissions from the No. 3 Boiler (unit UIN-C01), the permittee shall assess compliance with condition F1(a) of this permit by verifying natural gas was the sole fuel source used for this unit.
- (ii) For NO<sub>x</sub> emissions from the No. 3 Boiler (unit UIN-C01), the permittee shall assess compliance with conditions F2 and P60-Db1(a) of this permit by conducting monitoring required by conditions F7.
- (iii) For visible and particulate emissions from the Lime Silo/Bin (unit UIN-C03) the permittee shall assess compliance with conditions F1(a) and F3 of this permit by conducting monitoring required by condition F6(b).
- (iii) For visible and particulate emissions from the Lime Slaker (unit UIN-C04), the permittee shall assess compliance with conditions F1(a) and F4 of this permit by conducting monitoring required by condition F6(c) and reviewing maintenance records kept in accordance with condition F10.
- (c) The compliance certification shall include:
- (i) The permit condition or applicable requirement that is the basis of the certification;
- (ii) The current compliance status;
- (iii) Whether compliance was continuous or intermittent; and
- (iv) The methods used for determining compliance.
- (d) For any permit conditions or applicable requirements for which the source is not in compliance, the permittee shall submit with the compliance certification a proposed compliance plan and schedule for Division approval.
- (e) The compliance certification shall be submitted to the Division in accordance with condition G4 of this permit and to the Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice (8ENF-T), U.S. EPA - Region VIII, One Denver Place, 999 18th Street - Suite 300, Denver, CO 80202-2466.
- (f) Determinations of compliance or violations of this permit are not restricted to the monitoring requirements listed in paragraph (b) of this condition; other credible evidence may be used.

### Compliance Schedule [WAQSR WAQSR Ch 6, Sec 3 (h)(iii)(C)]

(C2) The permittee shall continue to comply with the applicable requirements with which the permittee has certified that it is already in compliance.

(C3) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.

## GENERAL PERMIT CONDITIONS

### Powers of the Administrator: [W.S. 35-11-110]

- (G1) (a) The Administrator may require the owner or operator of any point source to complete plans and specifications for any application for a permit required by the Wyoming Environmental Quality Act or regulations made pursuant thereto and require the submission of such reports regarding actual or potential violations of the Wyoming Environmental Quality Act or regulations thereunder.
- (b) The Administrator may require the owner or operator of any point source to establish and maintain records; make reports; install, use and maintain monitoring equipment or methods; sample emissions, or provide such other information as may be reasonably required and specified.

### Permit Renewal and Expiration: [WAQSR Ch 6, Sec 3 (c)(i)(C), (d)(ii), (d)(iv)(B), and (h)(i)(B)] [W.S. 35-11-206 (f)]

- (G2) This permit is issued for a fixed term of five years. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted at least six months prior to the date of permit expiration. If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit is not a violation of WAQSR Chapter 6, Section 3 until the Division takes final action on the renewal application. This protection shall cease to apply after a completeness determination if the applicant fails to submit by the deadline specified in writing by the Division any additional information identified as being needed to process the application.

### Duty to Supplement: [WAQSR Ch 6, Sec 3 (c)(iii)]

- (G3) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

### Submissions: [WAQSR Ch 6, Sec 3 (c)(iv)] [W.S. 35-11-206 (c)]

- (G4) Any document submitted shall be certified as being true, accurate, and complete by a responsible official.
- (a) Submissions to the Division.
- (i) Any submissions to the Division including reports, certifications, and emission inventories required under this permit shall be submitted as separate, stand-alone documents and shall be sent to:
- Administrator, Air Quality Division  
122 West 25th Street  
Cheyenne, Wyoming 82002
- (ii) A copy of each submission to the Administrator under paragraph (a)(i) of this condition shall be sent to the DEQ Air Quality Contact listed on page 3 of this permit.
- (b) Submissions to EPA.
- (i) Each certification required under condition C1 of this permit shall also be sent to:
- Assistant Regional Administrator  
Office of Enforcement, Compliance, and Environmental Justice (8ENF-T)  
U.S. EPA - Region VIII  
999 18th Street - Suite 300  
Denver, CO 80202-2466.
- (ii) All other required submissions to EPA shall be sent to:
- Office of Partnerships and Regulatory Assistance  
Air and Radiation Program (8P-AR)  
U.S. EPA - Region VIII  
999 18th Street - Suite 300  
Denver, CO 80202.

Changes for which No Permit Revision Is Required: [WAQSR Ch 6, Sec 3 (d)(iii)]

- (G5) The permittee may change operations without a permit revision provided that:
- (a) The change is not a modification under any provision of title I of the Clean Air Act;
  - (b) The change has met the requirements of Chapter 6, Section 2 of the WAQSR and is not a modification under Chapter 5, Section 2 or Chapter 6, Section 4 of the WAQSR and the changes do not exceed the emissions allowed under the permit (whether expressed therein as a rate of emissions or in terms of total emissions); and
  - (c) The permittee provides EPA and the Division with written notification at least 14 days in advance of the proposed change. The permittee, EPA, and the Division shall attach such notice to their copy of the relevant permit. For each such change, the written notification required shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield, if one exists for this permit, shall not apply to any such change made.

Transfer of Ownership or Operation: [WAQSR Ch 6, Sec 3 (d)(v)(A)(IV)]

- (G6) A change in ownership or operational control of this facility is treated as an administrative permit amendment if no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.

Reopening for Cause: [WAQSR Ch 6, Sec 3 (d)(vii)] [W.S. 35-11-206 (f)(ii) and (iv)]

- (G7) The Division will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:
- (a) Additional applicable requirements under the Clean Air Act or the WAQSR that become applicable to this source if the remaining permit term is three or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended.
  - (b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - (c) The Division or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - (d) The Division or EPA determines that the permit must be revised or revoked to assure compliance with applicable requirements.

Annual Fee Payment: [WAQSR Ch 6, Sec 3 (f)(i), (ii), and (vi)] [W.S. 35-11-211]

- (G8) The permittee shall, as a condition of continued operations, submit an annual fee to the Division as established in Chapter 6, Section 3 (f) of the WAQSR. The Division shall give written notice of the amount of fee to be assessed and the basis for such fee assessment annually. The assessed fee is due on receipt of the notice unless the fee assessment is appealed pursuant to W.S. 35-11-211(d). If any part of the fee assessment is not appealed it shall be paid to the Division on receipt of the written notice. Any remaining fee which may be due after completion of the appeal is immediately due and payable upon issuance of the Council's decision. Failure to pay fees owed the Division is a violation of Chapter 6, Section 3 (f) and W.S. 35-11-203 and may be cause for the revocation of this permit.

Annual Emissions Inventories: [WAQSR Ch 6, Sec 3 (f)(v)(G)]

- (G9) The permittee shall submit an annual emission inventory for this facility to the Division for fee assessment and compliance determinations within 60 days following the end of the calendar year. The emissions inventory shall be in a format specified by the Division.

Severability Clause: [WAQSR Ch 6, Sec 3 (h)(i)(E)]

(G10) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Compliance: [WAQSR Ch 6, Sec 3 (h)(i)(F)(I) and (II)] [W.S. 35-11-203 (b)]

(G11) The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act, Article 2 of the Wyoming Environmental Quality Act, and the WAQSR and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. 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 in order to maintain compliance with the conditions of this permit.

Permit Actions: [WAQSR Ch 6, Sec 3 (h)(i)(F)(III)] [W.S. 35-11-206 (f)]

(G12) This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Property Rights: [WAQSR Ch 6, Sec 3 (h)(i)(F)(IV)]

(G13) This permit does not convey any property rights of any sort, or any exclusive privilege.

Duty to Provide Information: [WAQSR Ch 6, Sec 3 (h)(i)(F)(V)]

(G14) The permittee shall furnish to the Division, within a reasonable time, any information that the Division 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 shall also furnish to the Division copies of records required to be kept by the permit, including information claimed and shown to be confidential under W.S. 35-11-1101 (a) of the Wyoming Environmental Quality Act. Upon request by the Division, the permittee shall also furnish confidential information directly to EPA along with a claim of confidentiality.

Emissions Trading: [WAQSR Ch 6, Sec 3 (h)(i)(H)]

(G15) There are no emissions trading provisions in this permit.

Inspection and Entry: [WAQSR Ch 6, Sec 3 (h)(iii)(B)] [W.S. 35-11-206 (c)]

(G16) Authorized representatives of the Division, upon presentation of credentials and other documents as may be required by law, shall be given permission to:

- (a) enter upon the permittee's premises where a 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 that must be kept 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;
- (d) sample or monitor any substances or parameters at any location, during operating hours, for the purpose of assuring compliance with this permit or applicable requirements.

Excess Emissions Due to an Emergency: [WAQSR Ch 6, Sec 3 (l)]

- (G17) The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency, as defined in Ch 6, Sec 3 (l)(i) of the WAQSR. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (a) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - (b) the permitted facility was, at the time, being properly operated;
  - (c) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit;
  - (d) the permittee submitted notice of the emergency to the Division within one working day of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

- (G18) The emission of carbon monoxide in stack gases from any stationary source shall be limited as may be necessary to prevent ambient standards from being exceeded.

Open Burning Restrictions: [WAQSR Ch 10, Sec 2]

- (G19) No person shall dispose of refuse or trade wastes by open burning; conduct, cause or permit a salvage operation by open burning; or cause, suffer, allow or permit open burning except as provided for in WAQSR Chapter 10, Section 2.

Diluting and Concealing Emissions: [WAQSR Ch 1, Sec 4]

- (G20) No person shall cause or permit the installation or use of any device, contrivance or operational schedule which, without resulting in reduction of the total amount of air contaminant released to the atmosphere, shall dilute or conceal an emission from a source. This condition shall not apply to the control of odors.

Abnormal Conditions and Equipment Malfunction: [WAQSR Ch 1, Sec 5]

- (G21) Emissions in excess of established regulation limits as a direct result of malfunction or abnormal conditions or breakdown of a process, control or related operating equipment beyond the control of the person or firm owning or operating such equipment shall not be deemed to be in violation of such regulations, if the Division is advised of the circumstances within 24 hours of such malfunction and a corrective program acceptable to the Division is furnished.

Asbestos: [WAQSR Ch 3, Sec 8]

- (G22) The permittee shall comply with emission standards for asbestos during abatement, demolition, renovation, manufacturing, spraying and fabricating activities.
- (a) No owner or operator shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.
  - (b) All owners and operators conducting an asbestos abatement project, including an abatement project on a residential building, shall be responsible for complying with Federal requirements and State standards for packaging, transportation, and delivery to an approved waste disposal facility as provided in paragraph (m) of Ch 3, Sec 8.
  - (c) The permittee shall follow State and Federal standards for any demolition and renovation activities conducted at this facility, including:
    - (i) A thorough inspection of the affected facility or part of the facility where the demolition or renovation activity will occur shall be conducted to determine the presence of asbestos,

- including Category I and Category II non-friable asbestos containing material. The results of the inspection will determine which notification and asbestos abatement procedures are applicable to the activity.
- (ii) The owner or operator shall follow the appropriate notification requirements of Chapter 3, Section 8(i)(ii).
  - (iii) The owner or operator shall follow the appropriate procedures for asbestos emissions control, as specified in Chapter 3, Section 8(i)(iii).
- (d) No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under paragraph (j) of Ch 3, Sec 8.
- (c) The permittee shall comply with all other requirements of WAQSR Ch 3, Sec 8.

Fugitive Dust: [WAQSR Ch 3, Sec 2(f)]

(G23) The permittee shall minimize fugitive dust in compliance with standards in Ch 3, Sec 2(f) of WAQSR for construction/demolition activities, handling and transportation of materials, and agricultural practices.

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

(G24) The permittee shall comply with all applicable Stratospheric Ozone Protection Requirements, including but not limited to:

- (a) *Standards for Appliances* [40 CFR Part 82, Subpart F]  
The permittee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F - Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
  - (i) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - (ii) 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.
  - (iii) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - (iv) 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.)
  - (v) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.166.
  - (vi) 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.
  - (vii) The permittee shall comply with all other requirements of Subpart F.
- (b) *Standards for Motor Vehicle Air Conditioners* [40 CFR Part 82, Subpart B]  
If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant 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.

**STATE ONLY PERMIT CONDITIONS**

The conditions listed in this section are State only requirements and are not federally enforceable.

**Ambient Standards**

(S1) The permittee shall operate the emission units described in this permit such that the following ambient standards are not exceeded:

| <b>POLLUTANT</b>                     | <b>STANDARD</b>  | <b>CONDITION</b>   | <b>WAQSR<br/>CH. 2, SEC.</b> |
|--------------------------------------|--|--|------------------------------|
| PM <sub>10</sub> particulate matter  | 50 micrograms per cubic meter                                      | annual arithmetic mean   | 2 (a)                        |
|                                      | 150 micrograms per cubic meter                                     | 24-hr avg. concentration with not more than one exceedance per year                |                              |
| PM <sub>2.5</sub> particulate matter | 15 micrograms per cubic meter                                      | annual arithmetic mean   | 2 (b)                        |
|                                      | 65 micrograms per cubic meter                                      | 98 <sup>th</sup> percentile 24-hour average concentration                          |                              |
| Nitrogen dioxide                     | 100 micrograms per cubic meter                                     | annual arithmetic mean   | 3                            |
| Sulfur oxides                        | 60 micrograms per cubic meter                                      | annual arithmetic mean   | 4                            |
|                                      | 260 micrograms per cubic meter                                     | max 24-hr concentration with not more than one exceedance per year                 |                              |
|                                      | 1300 micrograms per cubic meter                                    | max 3-hr concentration with not more than one exceedance per year                  |                              |
| Carbon monoxide                      | 10 milligrams per cubic meter                                      | max 8-hr concentration with not more than one exceedance per year                  | 5                            |
|                                      | 40 milligrams per cubic meter                                      | max 1-hr concentration with not more than one exceedance per year                  |                              |
| Ozone                                | 0.08 parts per million   | daily maximum 8-hour average   | 6                            |
|                                      | 0.12 parts per million   | one hour average   |                              |
| Hydrogen sulfide                     | 70 micrograms per cubic meter                                      | ½ hour average not to be exceeded more than two times per year                     | 7                            |
|                                      | 40 micrograms per cubic meter                                      | ½ hour average not to be exceeded more than two times in any five consecutive days |                              |
| Suspended sulfate                    | 0.25 milligrams SO <sub>3</sub> per 100 square centimeters per day | maximum annual average   | 8                            |
|                                      | 0.50 milligrams SO <sub>3</sub> per 100 square centimeters per day | maximum 30-day value   |                              |
| Lead and its compounds               | 1.5 micrograms per cubic meter                                     | maximum arithmetic mean averaged over a calendar quarter                           | 10                           |

Hydrogen Sulfide: [WAQSR Ch 3, Sec 7]

- (S2) Any exit process gas stream containing hydrogen sulfide which is discharged to the atmosphere from any source shall be vented, incinerated, flared or otherwise disposed of in such a manner that ambient sulfur dioxide and hydrogen sulfide standards are not exceeded.

Odors: [WAQSR Ch 2, Sec 11]

- (S3) (a) The ambient air standard for odors from any source shall be limited to an odor emission at the property line which is undetectable at seven dilutions with odor free air as determined by a scentometer as manufactured by the Barnebey-Cheney Company or any other instrument, device, or technique designated by the Division as producing equivalent results. The occurrence of odors shall be measured so that at least two measurements can be made within a period of one hour, these determinations being separated by at least 15 minutes.
- (b) Odor producing materials shall be stored, transported, and handled in a manner that odors produced from such materials are confined and that accumulation of such materials resulting from spillage or other escape is prevented.

## SUMMARY OF SOURCE EMISSION LIMITS AND REQUIREMENTS

Source ID#: UIN-C01 Source Description: No. 3 Boiler

| Pollutant       | Emissions Limit / Work Practice Standard  | Corresponding Regulation(s)                                    | Testing Requirements | Monitoring Requirements              | Recordkeeping Requirements  | Reporting Requirements  |
|-----------------|---|--|----------------------|--------------------------------------|---|---|
| Particulate     | 20 percent opacity [F1]   | WAQSR Ch 3, Sec 2  | If required [F5]     | Natural gas firing [F6]              | Test records [F8]   | Report type of fuel fired [F13]<br>Report excess emissions and permit deviations[F15] |
| NO <sub>x</sub> | 0.14 lb/MMBtu [F2]<br>28.00 lb/hr [F2]<br><br>0.20 lb/MMBtu, 30 day rolling average [P60-Db1] | WAQSR Ch 6, Sec 2<br>Permit OP-255 and<br>40 CFR 60 Subpart Db | If required [F5]     | Continuous emissions monitoring [F7] | Test records [F8]<br><br>Emissions monitoring and operational records [F11] | Report excess emissions [F12]<br>Report excess emissions and permit deviations[F15]   |
| CO              | 18.15 lb/hr [F2]  | WAQSR Ch 6, Sec 2<br>Permit OP-255                             | If required [F5]     | None [F7]                            | Test records [F8]   | Report excess emissions and permit deviations[F15]                                    |

Source ID#: UIN-C03 Source Description: Lime Silo/Bin (baghouse controlled)

| Pollutant   | Emissions Limit / Work Practice Standard   | Corresponding Regulation(s)   | Testing Requirements | Monitoring Requirements                          | Recordkeeping Requirements                | Reporting Requirements   |
|-------------|--|---|----------------------|--|---|--|
| Particulate | 20 percent opacity [F1]<br>0.67 lb/hr [F3] | WAQSR Ch 3, Sec 2,<br>Ch 6, Sec 2 Permit OP-255, and Ch 6, Sec 3(h)(i)(A) | If required [F5]     | Daily CAM observations [F6, CAM-1 through CAM-5] | Visible emissions monitoring records [F9] | Monitoring reports [F13]<br>Report excess emissions and permit deviations[F15] |

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **UIN-C04** Source Description: **Lime Slaker (wet scrubber controlled)**

| Pollutant   | Emissions Limit / Work Practice Standard  | Corresponding Regulation(s)  | Testing Requirements | Monitoring Requirements  | Recordkeeping Requirements   | Reporting Requirements  |
|-------------|---|--|----------------------|--------------------------|--|---|
| Particulate | 20 percent opacity [F1]<br><br>0.43 lb/hr and proper operation and maintenance [F4] | WAQSR Ch 3, Sec 2, Ch 6, Sec 2 Permit OP-255, and Ch 6, Sec 3(h)(i)(A) | If required [F5]     | Weekly observations [F6] | Visible emissions monitoring records [F9]<br>Maintenance records [F10] | Monitoring reports [F13]<br>Maintenance reports [F14]<br>Report excess emissions and permit deviations[F15] |

Source ID#: **UIN-C05** Source Description: **Emergency Generator Engine**

| Pollutant   | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements                             |
|-------------|--|-----------------------------|----------------------|-------------------------|----------------------------|--|
| Particulate | 30 percent opacity [F1]                  | WAQSR Ch 3, Sec 2           | If required [F5]     | None                    | Test records [F8]          | Report excess emissions and permit deviations[F15] |

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

## ABBREVIATIONS

|                  |   |
|------------------|---|
| ACFM             | Actual cubic foot per minute  |
| AQD              | Air Quality Division  |
| BACT             | Best available control technology (see Definitions)                           |
| Btu              | British Thermal Unit  |
| CAA              | Clean Air Act   |
| CAM              | Compliance Assurance Monitoring   |
| C.F.R.           | Code of Federal Regulations   |
| CO               | Carbon monoxide   |
| °F               | Degrees Fahrenheit  |
| DEQ              | Wyoming Department of Environmental Quality                                   |
| EPA              | United States Environmental Protection Agency (see Definitions)               |
| g                | Gram(s)   |
| g-cal/hr         | Gram-calorie(s) per hour  |
| g/hp-hr          | Gram(s) per horsepower hour   |
| gal              | Gallon(s)   |
| gpm              | Gallon(s) per minute  |
| gr               | Grain(s)  |
| H <sub>2</sub> S | Hydrogen sulfide  |
| HAP(s)           | Hazardous air pollutant(s)  |
| hp               | Horsepower  |
| hr               | Hour(s)   |
| ID#              | Identification number   |
| lb               | Pound(s)  |
| M                | Thousand  |
| MACT             | Maximum available control technology (see Definitions)                        |
| mfr              | Manufacturer  |
| mg               | Milligram(s)  |
| MM               | Million   |
| N/A              | Not applicable  |
| NMHC(s)          | Non-methane hydrocarbon(s)  |
| NO <sub>x</sub>  | Oxides of nitrogen  |
| O <sub>2</sub>   | Oxygen  |
| OPP              | Operating Permit Program  |
| PM               | Particulate matter  |
| PM <sub>10</sub> | Particulate matter less than or equal to a nominal diameter of 10 micrometers |
| ppmv             | Parts per million (by volume)   |
| ppmw             | Parts per million (by weight)   |
| psig             | Pounds per square inch gauge  |
| QIP              | Quality Improvement Plan  |
| SCF              | Standard cubic foot (feet)  |
| SCM              | Standard cubic meter(s)   |
| SIC              | Standard Industrial Classification  |
| SO <sub>2</sub>  | Sulfur dioxide  |
| SO <sub>3</sub>  | Sulfur trioxide   |
| SO <sub>x</sub>  | Oxides of sulfur  |
| TPY              | Tons per year   |
| U.S.C.           | United States Code  |
| µg               | Microgram(s)  |
| VOC(s)           | Volatile organic compound(s)  |
| W.S.             | Wyoming Statute   |
| WAQSR            | Wyoming Air Quality Standards & Regulations (see Definitions)                 |

## DEFINITIONS

*"Act"* means the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

*"Administrator"* means Administrator of the Air Quality Division, Wyoming Department of Environmental Quality.

*"Applicable requirement"* means all of the following as they apply to emissions units at a source subject to Chapter 6, Section 3 of the WAQSR (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

- (a) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by EPA under Title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 CFR Part 52;
- (b) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;
- (c) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under Title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;
- (d) Any standard or other requirement promulgated under Section 111 of the Act, including Section 111(d) and Chapter 5, Section 2 of the WAQSR;
- (e) Any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act and including any regulations promulgated by EPA and the State pursuant to Section 112 of the Act;
- (f) Any standard or other requirement of the acid rain program under Title IV of the Act or the regulations promulgated thereunder;
- (g) Any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;
- (h) Any standard or other requirement governing solid waste incineration, under Section 129 of the Act;
- (i) Any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);
- (j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Act, unless the EPA has determined that such requirements need not be contained in a Title V permit;
- (k) Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act; and
- (l) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.
- (m) Nothing under paragraphs (A) through (L) above shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of Title IV of the Act.

**"BACT" or "Best available control technology"** means an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the WAQSR or regulation under the Federal Clean Air Act, which would be emitted from or which results for any proposed major emitting facility or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application or production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, he may instead prescribe a design, equipment, work practice or operational standard or combination thereof to satisfy the requirement of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results. Application of BACT shall not result in emissions in excess of those allowed under Chapter 5, Section 2 of the WAQSR and any other new source performance standard or national emission standards for hazardous air pollutants promulgated by EPA but not yet adopted by the state.

**"Department"** means the Wyoming Department of Environmental Quality or its Director.

**"Director"** means the Director of the Wyoming Department of Environmental Quality.

**"Division"** means the Air Quality Division of the Wyoming Department of Environmental Quality or its Administrator.

**"Emergency"** means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

**"EPA"** means the Administrator of the U.S. Environmental Protection Agency or the Administrator's designee.

**"Fuel-burning equipment"** means any furnace, boiler apparatus, stack, or appurtenances thereto used in the process of burning fuel or other combustible material for the purpose of producing heat or power by indirect heat transfer.

**"Fugitive emissions"** means those emissions which could not reasonably pass through a stack chimney, vent, or other functionally equivalent opening.

**"Insignificant activities"** means those activities which are incidental to the facility's primary business activity and which result in emissions of less than one ton per year of a regulated pollutant not included in the Section 112 (b) list of hazardous air pollutants or emissions less than 1000 pounds per year of a pollutant regulated pursuant to listing under Section 112 (b) of the Act provided, however, such emission levels of hazardous air pollutants do not exceed exemptions based on insignificant emission levels established by EPA through rulemaking for modification under Section 112 (g) of the Act.

**"MACT" or "Maximum achievable control technology"** means the maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory that shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than:

- (a) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emission information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or
- (b) the average emission limitation achieved by the best performing five sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

**"Modification"** means any physical change in, or change in the method of operation of, an affected facility which increases the amount of any air pollutant (to which any state standards applies) emitted by such facility or which results in the emission of any such air pollutant not previously emitted.

**"Permittee"** means the person or entity to whom a Chapter 6, Section 3 permit is issued.

**"Potential to emit"** means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

**"Regulated air pollutant"** means the following:

- (a) Nitrogen oxides (NO<sub>x</sub>) or any volatile organic compound;
- (b) Any pollutant for which a national ambient air quality standard has been promulgated;
- (c) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or Section 111 of the Act;
- (d) Any Class I or II substance subject to a standard promulgated under or established by Title VI of the Act; or
- (e) Any pollutant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the Act, including Sections 112(g), (j), and (r) of the Act, including the following:
  - (i) Any pollutant subject to requirements under Section 112(j) of the Act. If EPA fails to promulgate a standard by the date established pursuant to Section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to Section 112(e) of the Act; and
  - (ii) Any pollutant for which the requirements of Section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to Section 112(g)(2) requirement.
- (f) Pollutants regulated solely under Section 112(r) of the Act are to be regulated only with respect to the requirements of Section 112(r) for permits issued under this Chapter 6, Section 3 of the WAQSR.

**"Renewal"** means the process by which a permit is reissued at the end of its term.

**"Responsible official"** means one of the following:

- (a) For a corporation:
  - (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
  - (ii) A duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
    - (A) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
    - (B) the delegation of authority to such representative is approved in advance by the Division;
- (b) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- (c) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency; or
- (d) For affected sources:
  - (i) The designated representative or alternate designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Act or the regulations promulgated thereunder are concerned; and
  - (ii) The designated representative, alternate designated representative, or responsible official under Chapter 6, Section 3 (b)(xxvi) of the WAQSR for all other purposes under this section.

**"WAQSR"** means the Wyoming Air Quality Standards and Regulations promulgated under the Wyoming Environmental Quality Act, W.S. §35-11-101, *et seq.*



**APPENDIX A**

40 CFR 60 SUBPART Db



## Subpart Db-Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

### § 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 MW (100 million Btu/hour).

(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 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§60.42 and §60.43).

(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§60.104).

(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the nitrogen oxides and particulate matter standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40a) are not

subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing 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 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) Affected facilities which meet the applicability requirements under subpart Eb (Standards of performance for municipal waste combustors; §60.50b) are not subject to this subpart.

(i) Unless and until subpart GG of this part is revised to extend the applicability of subpart GG of this part to steam generator units subject to this subpart, this subpart will continue to apply to combined cycle gas turbines that are capable of combusting more than 29 MW (100 million Btu/hour) heat input of fossil fuel in the steam generator. Only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG 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).

[52 FR 47842, Dec. 16, 1987, as amended at 63 FR 49454, Sept. 16, 1998; 65 FR 61752, Oct. 17, 2000]

### § 60.41b 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.

*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 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* means industrial plants which 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 D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR-see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, 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.

*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 heat recovery 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 D396-78, 89, 90, 92, 96, or 98, Standard Specifications for Fuel Oil (incorporated by reference-see §60.17).

*Dry flue gas desulfurization technology* means a sulfur dioxide 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 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 heat recovery steam generating unit.

**Emerging technology** means any sulfur dioxide 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 40 CFR 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.

**Heat input** means heat derived from combustion of fuel in a steam generating unit and does not include the heat input 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/hour) 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<sup>3</sup> (70,000 Btu/hour-ft<sup>3</sup>).

**Lignite** means a type of coal classified as lignite A or lignite B by the American Society

of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR-see §60.17).

**Low heat release rate** means a heat release rate of 730,000 J/sec-m<sup>3</sup> (70,000 Btu/hour-ft<sup>3</sup>) 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) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-82, , 86, 87, 91, or 97, Standard Specification for Liquid Petroleum Gases (IBR-see §60.17).

**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 sulfur dioxide emissions (ng/J, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

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

**Pulp and paper mills** means industrial plants which 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 D396-78, Standard Specifications for Fuel Oils (IBR-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 to produce steam or to heat water or any other 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.

**Very low sulfur oil** means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/million Btu) heat input.

**Wet flue gas desulfurization technology** means a sulfur dioxide 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 particulate matter or sulfur dioxide.

*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.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 66 FR 49834, Oct. 1, 2001]

#### § 60.42b Standard for sulfur dioxide.

(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 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and that contain sulfur dioxide in excess of 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:

$E_s$  is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,

$K_a$  is 520 ng/J (or 1.2 lb/million Btu),

$K_b$  is 340 ng/J (or 0.80 lb/million Btu),

$H_a$  is the heat input from the combustion of coal, in J (million Btu),

$H_b$  is the heat input from the combustion of oil, in J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, 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 of this part, whichever comes first, no owner or operator of an affected facility 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 sulfur dioxide in excess of 20 percent of the potential sulfur dioxide emission rate

(80 percent reduction) and that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) 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.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8 of this part, 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 sulfur dioxide emissions, shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 50 percent of the potential sulfur dioxide emission rate (50 percent reduction) and that contain sulfur dioxide 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:

$E_s$  is the sulfur dioxide emission limit, expressed in ng/J (lb/million Btu) heat input,

$K_c$  is 260 ng/J (0.60 lb/million Btu),

$K_d$  is 170 ng/J (0.40 lb/million Btu),

$H_c$  is the heat input from the combustion of coal, J (million Btu),

$H_d$  is the heat input from the combustion of oil, J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input to the affected facility from exhaust gases from another source, 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 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraphs (d) (1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) 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), or (3).

(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 other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat input to 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 input to the steam generating unit is from the exhaust gases entering the duct burner.

(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, the sulfur dioxide 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 sulfur dioxide 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 sulfur dioxide emissions and

(2) Emissions from the pretreated fuel (without combustion or post combustion sulfur dioxide 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 sulfur dioxide control system is not being operated because of malfunction or maintenance of the sulfur dioxide 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 sulfur dioxide emission rate or fuel oil sulfur content; or (2) maintaining fuel receipts as described in §60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000]

#### § 60.43b Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility which 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 particulate matter in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/million Btu) 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/million Btu) 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/million Btu) 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 million Btu/hour) 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.

(b) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil (or mixtures of oil with other fuels) and

uses a conventional or emerging technology to reduce sulfur dioxide emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 43 ng/J (0.10 lb/million Btu) 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 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) 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/million Btu) 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 million Btu/hour) 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 of this part, 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 particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) 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/million Btu) 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 million Btu/hour) or less,

(iii) Has a federally enforceable requirement

limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) 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 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 design 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 of this part, 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.

(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000]

#### § 60.44b Standard for nitrogen oxides.

(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 of this part, 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 nitrogen oxides (expressed as NO<sub>2</sub>) in excess of the following emission limits:

| Fuel/Steam generating unit type  | Nitrogen oxide emission limits<br>ng/J (lb/million Btu)<br>(expressed as NO <sub>x</sub> ) heat input |
|--|---|
| (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 (0.30)  |
| (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 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)}{H_{go} + H_{ro} + H_c}$$

where:

$E_n$  is the nitrogen oxides emission limit (expressed as NO<sub>x</sub>), ng/J (lb/million Btu),

$EL_{go}$  is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu),

$H_{go}$  is the heat input from combustion of natural gas or distillate oil,

$EL_{ro}$  is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

$H_{ro}$  is the heat input from combustion of residual oil,

$EL_c$  is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

$H_c$  is the heat input from combustion of coal.

(c) 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 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with 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 for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas 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 nitrogen oxides in excess of 130 ng/J (0.30 lb/million Btu) heat input unless the affected facility has an annual capacity factor for 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 for natural gas.

(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 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of an 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 which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \frac{(EL_{go} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)}{H_{go} + H_{ro} + H_c}$$

where:

$E_n$  is the nitrogen oxides emission limit (expressed as NO<sub>x</sub>), ng/J (lb/million Btu)

$EL_{go}$  is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu).

$H_{go}$  is the heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, ng/J (lb/million Btu).

$EL_{ro}$  is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/million Btu)

$H_{ro}$  is the heat input from combustion of residual oil and/or liquid byproduct/waste.

$EL_c$  is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

$H_c$  is the heat input from combustion of coal.

(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 nitrogen oxides emission limit which 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 nitrogen oxides 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 nitrogen oxides 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) 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) 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 nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) 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 nitrogen oxides emission limit will be established at the nitrogen oxides 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 nitrogen oxides emissions.

(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 nitrogen oxides emission limit which applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on nitrogen oxides 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 nitrogen oxides 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 nitrogen oxides emission limits of this section. The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) 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).)

(h) For purposes of paragraph (i) of this section, the nitrogen oxide 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 and 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 million Btu/hour) or less, are not subject to the nitrogen oxides 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 comes first, no owner or operator of an affected facility which commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of the following limits:

(1) If the affected facility combusts coal, oil, or natural gas, or a mixture of these fuels, or with any other fuels: A limit of 86 ng/JI (0.20 lb/million Btu) heat input 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 facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; 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 from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = [(0.10 * H_{g0}) + (0.20 * H_i)] / (H_{g0} + H_i)$$

Where:

$E_n$  is the NO<sub>x</sub> emission limit, (lb/million Btu),

$H_{g0}$  is the heat input from combustion of natural gas or distillate oil, and

$H_i$  is the heat input from combustion of any other fuel.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49454, Sept. 16, 1998, 66 FR 42610, Aug. 14, 2001]

**§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.**

(a) The sulfur dioxide emission standards under §60.42b apply at all times.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A 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 sulfur dioxide emission rate (% P<sub>s</sub>) and the sulfur dioxide emission rate (E<sub>s</sub>) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) of this section.

(1) The initial performance test shall be conducted over the first 30 consecutive operating days of the steam generating unit. Compliance with the sulfur dioxide 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 or only oil is combusted, the following procedures are used:

(i) The procedures in Method 19 are used to determine the hourly sulfur dioxide emission rate (E<sub>h0</sub>) and the 30-day average emission rate (E<sub>30</sub>). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system of §60.47b (a) or (b).

(ii) The percent of potential sulfur dioxide emission rate (% P<sub>s</sub>) 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:

% R<sub>g</sub> is the sulfur dioxide removal efficiency of the control device as determined by Method 19, in percent.

% R<sub>f</sub> is the sulfur dioxide removal efficiency of fuel pretreatment as determined by Method 19, 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 sulfur dioxide emission rate ( $E_{ho}^o$ ) is used in Equation 19-19 of Method 19 to compute an adjusted 30-day average emission rate ( $E_{30}^o$ ). The  $E_{ho}^o$  is computed using the following formula:

$$E_{ho}^o = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

where:

$E_{ho}^o$  is the adjusted hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

$E_{ho}$  is the hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

$E_w$  is the sulfur dioxide 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, ng/J (lb/million Btu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted.

$X_k$  is the fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19.

(ii) To compute the percent of potential sulfur dioxide emission rate (% P), an adjusted %  $R_g$  (%  $R_g^o$ ) is computed from the adjusted  $E_{30}^o$  from paragraph (b)(3)(i) of this section and an adjusted average sulfur dioxide inlet rate ( $E_{ai}^o$ ) using the following formula:

$$\%R_g^o = 100\left(1.0 - \frac{E_{ao}^o}{E_{ai}^o}\right)$$

To compute  $E_{ai}^o$ , an adjusted hourly sulfur dioxide inlet rate ( $E_{ai}^o$ ) is used. The  $E_{ai}^o$  is computed using the following formula:

$$E_{ai}^o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

where:

$E_{ai}^o$  is the adjusted hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

$E_{hi}$  is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

(4) The owner or operator of an affected facility subject to paragraph (b)(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, following the procedures in paragraph (c)(2) of this section, and

(ii) Sulfur dioxide emissions ( $E_s$ ) are considered to be in compliance with sulfur dioxide 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  $X_k$  under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure sulfur dioxide emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19.

(d) Except as provided in paragraph (j), the owner or operator of an affected facility that combusts only very low sulfur oil, 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 continuous emission measurement system (CEMS) is used, or based on a daily average if Method 6B or fuel sampling and analysis procedures under Method 19 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 sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide 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 sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide 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 sulfur dioxide 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 sulfur dioxide emissions data in calculating % P, and  $E_{30}^o$  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 sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating % P, and  $E_{30}^o$  pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the sulfur dioxide control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate % P, 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 combusts very low sulfur oil 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).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989]

#### § 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The particulate matter emission standards and opacity limits under §60.43b apply at all

times except during periods of startup, shutdown, or malfunction. The nitrogen oxides emission standards under §60.44b apply at all times.

(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section.

(c) Compliance with the nitrogen oxides 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 particulate matter 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 using the following procedures and reference methods:

(1) Method 3B is used for gas analysis when applying Method 5 or Method 17.

(2) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of particulate matter as follows:

(i) Method 5 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 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 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after a wet FGD system. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B is to be used only after wet FGD systems.

(3) Method 1 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, 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 particulate matter emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, Method 5B or Method 17 by traversing the duct at the same sampling location.

(6) For each run using Method 5, Method 5B or Method 17, the emission rate expressed in

nanograms per joule heat input is determined using:

(i) The oxygen or carbon dioxide measurements and particulate matter measurements obtained under this section,

(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19.

(7) Method 9 is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for nitrogen oxides 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 nitrogen oxides under §60.48(b).

(1) For the initial compliance test, nitrogen oxides 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 nitrogen oxides 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 under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the nitrogen oxides emission 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 nitrogen oxides 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 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity greater than 73 MW (250 million Btu/hour) and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the nitrogen oxides 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 nitrogen oxides 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 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity of 73 MW (250 million Btu/hour) or less and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the nitrogen oxides standards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides 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 nitrogen oxides 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 nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility which combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of paragraph (iii) of this section apply and the provisions of paragraph (iv) of this section are inapplicable.

(f) To determine compliance with the emissions limits for NO<sub>x</sub> 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<sub>x</sub> shall be computed using Equation 1 of this section:

$$E = E_{sg} + (H_g / H_b)(E_{sg} - E_g) \quad (\text{Eq. 1})$$

Where:

E = emissions rate of NO<sub>x</sub> from the duct burner, ng/J (lb/ million Btu) heat input

E<sub>sg</sub> = combined effluent emissions rate, in ng/J (lb/million Btu) heat input using appropriate F-Factor as described in Method 19

H<sub>g</sub> = heat input rate to the combustion turbine, in Joules/hour (million Btu/hour)

H<sub>b</sub> = heat input rate to the duct burner, in Joules/hour (million Btu/ hour)

E<sub>g</sub> = emissions rate from the combustion turbine, in ng/J (lb/million Btu) heat input calculated using appropriate F-Factor as described in Method 19.

(ii) Method 7E of appendix A of this part shall be used to determine the NO<sub>x</sub> concentrations. Method 3A or 3B of appendix

A of this part shall be used to determine oxygen 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 continuous emission monitoring system specified under §60.48b for measuring NO<sub>x</sub> and oxygen and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO<sub>x</sub> emissions rate at the outlet from the steam generating unit shall constitute the NO<sub>x</sub> 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 described in sections 5 and 7.3 of the ASME Power Test Codes 4.1 (see IBR §60.17(h)). 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 million Btu/hour) 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 nitrogen oxides emission standards under §60.44b using Method 7, 7A, 7E, 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 nitrogen oxides 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, or other approved reference methods.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 55 FR 18876, May 7, 1990; 65 FR 61752, Oct. 17, 2000; 66 FR 18553, Apr. 10, 2001]

#### § 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 sulfur dioxide standards under §60.42b shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring sulfur dioxide concentrations and either oxygen or carbon dioxide concentrations and shall record the output of the systems. The sulfur dioxide and either oxygen or carbon dioxide concentrations shall both be monitored at the inlet and outlet of the sulfur dioxide control device.

(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 sulfur dioxide 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. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(2) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide 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, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B 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 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily sulfur dioxide emission rate, E<sub>D</sub>, shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/million Btu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/million Btu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(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 sulfur dioxide 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/million Btu heat input and is used to calculate the average emission rates under §60.42b. Each 1-hour average sulfur dioxide emission rate must be based on more than 30 minutes of steam generating unit operation and include at least 2 data points with each representing a 15-minute period. Hourly sulfur dioxide emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

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

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

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

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted, and the span value of the

CEMS at the outlet to the sulfur dioxide control device is 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted.

(f) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, Dec. 18, 1989; 55 FR 5212, Feb. 14, 1990; 55 FR 18876, May 7, 1990]

**§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.**

(a) The owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere; or

(2) If the owner or operator has installed a nitrogen oxides emission rate continuous emission monitoring system (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 continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/million Btu 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(b). At least 2 data points must be used to calculate each 1-hour average.

(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 continuous monitoring system for measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:

| Fuel             | Span values for nitrogen oxides (PPM) |
|------------------|---------------------------------------|
| Natural gas..... | 500                                   |
| Oil.....         | 500                                   |
| Coal.....        | 1,000                                 |
| Mixtures.....    | 500(x+y)+1,000z                       |

where:

x is the fraction of total heat input derived from natural gas.

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(3) All span values computed under paragraph (e)(2) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, 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 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, 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 nitrogen oxides 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, which is subject to the NO<sub>x</sub> standards of §60.44b(a)(4) or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO<sub>x</sub> 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 continuous monitoring system for measuring nitrogen oxides emissions.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49455, Sept. 16, 1998; 66 FR 18553, Apr. 10, 2001]

**§ 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 sulfur dioxide. 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 sulfur dioxide, particulate matter, and/or nitrogen oxides 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. 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 nitrogen oxides standard of §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under §60.48b(g)(2) and the records to be maintained under §60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/J or lbs/million Btu 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 oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(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(j). 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.

(d) 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.

(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 D3431-80, Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (IBR-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 facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides 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 nitrogen oxides emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/million Btu heat input) measured or predicted.

(3) The 30-day average nitrogen oxides emission rates (ng/J or lb/ million Btu 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 nitrogen oxides emission rates are in excess of the nitrogen oxides 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 continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring

system 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.

(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 which occurred during the reporting period.

(1) Any affected facility subject to the opacity standards under §60.43b(e) or to the operating parameter monitoring requirements under §60.13(i)(1).

(2) Any affected facility that is subject to the nitrogen oxides standard of §60.44b, and that

(i) Combusts natural gas, distillate oil, 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 million Btu/hour) or less and is required to monitor nitrogen oxides 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 nitrogen oxides emission rate, as determined under §60.46b(e), which exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides 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 sulfur dioxide 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 sulfur dioxide emission rate (ng/J or lb/ million Btu 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.

(3) Each 30-day average percent reduction in sulfur dioxide 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 sulfur dioxide or diluent (oxygen or carbon dioxide) 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.

(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 sulfur dioxide 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 sulfur dioxide or diluent (oxygen or

carbon dioxide) 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 which could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(m) For each affected facility subject to the sulfur dioxide standards under §60.42(b) for which the minimum amount of data required under §60.47b(f) 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, 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, section 7.

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., % Rf) is used to determine the overall percent reduction (i.e., % Ro) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (i.e., % Rf) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period.

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit.

(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 (appendix A) 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 nitrogen oxides emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last nitrogen oxides emission test.

(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the 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 was combusted in the affected facility during the reporting period.

(s) Facility specific nitrogen oxides standard for Cytex 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 nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 289 ng/J (0.67 lb/million Btu) 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 nitrogen oxides emission limit shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in §60.46b(i).

(iii) The monitoring of the nitrogen oxides 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 or operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific nitrogen oxides 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 nitrogen oxides 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 nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 473 ng/J (1.1 lb/million Btu), 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 nitrogen oxides emission limit shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in §60.46b.

(iii) The monitoring of the nitrogen oxides 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 or 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 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 nitrogen oxide (NOX) technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NOX emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a stack test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO<sub>2</sub> and/or NOX and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 60 FR 28062, May 30, 1995; 61 FR 14031, Mar. 29, 1996; 62 FR 52641, Oct. 8, 1997; 63 FR 49455, Sept. 16, 1998; 64 FR 7464, Feb. 12, 1999; 65 FR 13243, Mar. 13, 2000]



**APPENDIX B**

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN



# COMPLIANCE ASSURANCE MONITORING PLAN

## UIN-C03 Lime Silo/Bin

### Emissions Unit

Description: Lime Silo/Bin Baghouse  
Identification: UIN-C03  
Facility: FMC Granger Caustic Facility

### Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: OP-255, 30-084 Permits  
Emission Limit: 0.67 lb/hr PM  
Monitoring Requirements: Visible emissions, periodic monitoring (F6)(b)

### Control Technology

Pulse-jet baghouse operated under negative pressure.

### Monitoring Approach

#### Indicator

Daily visible emissions (VE) observations.

#### Rationale

No visible emissions provide reasonable assurance of compliance for both the opacity and particulate limits. Observed visible emissions indicate abnormal baghouse collection efficiency and a potential exceedance of one or both limits.

#### Measurement

VE observations will be made following appropriate criteria for location, background, etc., similar to EPA Method 22 requirements.

#### Analytical Devices Required

None

#### QA/QC Procedures

Observers will be properly trained to conduct observations using EPA Method 22 as a guideline.

#### Indicator Range

Presence of a VE will initiate corrective action directed at the baghouse unit.

#### QIP (Quality Improvement Plan) Threshold

The QIP threshold is four (4) positive VE observations in a six-month period. This level is 2 percent of the total daily readings. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and implemented.

### Implementation Plan

Daily VE observations will be initiated at the startup of the caustic plant, or in the event that the plant is operating prior to the date of the operating permit renewal, no longer than 30 days from the renewal date.



**APPENDIX C**

WAQSR CHAPTER 7, SECTION 3 COMPLIANCE ASSURANCE MONITORING (CAM)



## WAQSR Chapter 7, Section 3 Compliance Assurance Monitoring (CAM)

(a) **Definitions.** For purposes of this section:

*"Act"* means the Clean Air Act, as amended by Pub.L. 101-549, 42 U.S.C. 7401, et seq.

*"Applicable requirement"* means all of the following as they apply to emissions units at a source subject to this section (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

(i) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by the EPA under title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 CFR part 52;

(ii) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;

(iii) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;

(iv) Any standard or other requirement promulgated under section 111 of the Act, including section 111(d) and Chapter 5, Section 2 of the WAQSR;

(v) Any standard or other requirement under section 112 of the Act, including any requirement concerning accident prevention under section 112(r)(7) of the Act and including any regulations promulgated by the EPA and the State pursuant to section 112 of the Act;

(vi) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;

(vii) Any requirements established pursuant to section 504(b) or section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;

(viii) Any standard or other requirement governing solid waste incineration, under section 129 of the Act;

(ix) Any standard or other requirement for consumer and commercial products, under section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);

(x) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the EPA has determined that such

requirements need not be contained in a title V permit;

(xi) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act; and

(xii) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.

(xiii) Nothing under Chapter 6, Section 3(b)(v) shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of title IV of the Act.

*"Capture system"* means the equipment (including but not limited to hoods, ducts, fans, and booths) used to contain, capture and transport a pollutant to a control device.

*"Continuous compliance determination method"* means a method, specified by the applicable standard or an applicable permit condition, which:

(i) Is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard; and

(ii) Provides data either in units of the standard or correlated directly with the compliance limit.

*"Control device"* means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas absorption devices), selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, spray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems (such as water, steam, ammonia, sorbent or limestone injection), and combustion devices independent of the particular process being conducted at an emissions unit (e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers or process heaters). For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. If an applicable

requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular pollutant-specific emissions unit, then that definition shall be binding for purposes of this part.

*"Data"* means the results of any type of monitoring or method, including the results of instrumental or non-instrumental monitoring, emission calculations, manual sampling procedures, recordkeeping procedures, or any other form of information collection procedure used in connection with any type of monitoring or method.

*"Emission limitation or standard"* means any applicable requirement that constitutes an emission limitation, emission standard, standard of performance or means of emission limitation as defined under the Act. An emission limitation or standard may be expressed in terms of the pollutant, expressed either as a specific quantity, rate or concentration of emissions (e.g., pounds of SO<sub>2</sub> per hour, pounds of SO<sub>2</sub> per million British thermal units of fuel input, kilograms of VOC per liter of applied coating solids, or parts per million by volume of SO<sub>2</sub>) or as the relationship of uncontrolled to controlled emissions (e.g., percentage capture and destruction efficiency of VOC or percentage reduction of SO<sub>2</sub>). An emission limitation or standard may also be expressed either as a work practice, process or control device parameter, or other form of specific design, equipment, operational, or operation and maintenance requirement. For purposes of this part, an emission limitation or standard shall not include general operation requirements that an owner or operator may be required to meet, such as requirements to obtain a permit, to operate and maintain sources in accordance with good air pollution control practices, to develop and maintain a malfunction abatement plan, to keep records, submit reports, or conduct monitoring.

*"Emissions unit"* means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.

*"Exceedence"* shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

"Excursion" shall mean a departure from an indicator range established for monitoring under this part, consistent with any averaging period specified for averaging the results of the monitoring.

"Inherent process equipment" means equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered a control device.

"Major source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person or persons under common control) belonging to a single major industrial grouping and that is described in paragraphs (i), (ii), or (iii) of this definition. For the purpose of defining "major source", a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

(i) A major source under section 112 of the Act, which is defined as:

(A) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the EPA may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

(B) For radionuclides, "major source" shall have the meaning specified by the EPA by rule.

(ii) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the EPA). Emissions of air pollutants regulated solely due to section 112(r) of the Act shall not be considered in determining whether a source is a "major source" for purposes of Chapter 6, Section 3 applicability. The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source unless the source belongs to one of the following categories of stationary sources:

(A) Stationary sources listed in Chapter 6, Section 4(a)(i)(a) of the WAQSR; or

(B) Any other stationary source category, which as of August 7, 1980 is being regulated under section 111 or 112 of the Act.

(iii) A major stationary source as defined in part D of title I of the Act (in reference to sources located in non-attainment areas).

"Monitoring" means any form of collecting data on a routine basis to determine or otherwise assess compliance with emission limitations or standards. Recordkeeping may be considered monitoring where such records are used to determine or assess compliance with an emission limitation or standard (such as records of raw material content and usage, or records documenting compliance with work practice requirements). The conduct of compliance method tests, such as the procedures in 40 CFR part 60, Appendix A, on a routine periodic basis may be considered monitoring (or as a supplement to other monitoring), provided that requirements to conduct such tests on a one-time basis or at such times as a regulatory authority may require on a non-regular basis are not considered monitoring requirements for purposes of this paragraph. Monitoring may include one or more than one of the following data collection techniques, where appropriate for a particular circumstance:

(i) Continuous emission or opacity monitoring systems;

(ii) Continuous process, capture system, control device or other relevant parameter monitoring systems or procedures, including a predictive emission monitoring system;

(iii) Emission estimation and calculation procedures (e.g., mass balance or stoichiometric calculations);

(iv) Maintenance and analysis of records of fuel or raw materials usage;

(v) Recording results of a program or protocol to conduct specific operation and

maintenance procedures;

(vi) Verification of emissions, process parameters, capture system parameters, or control device parameters using portable or in situ measurement devices;

(vii) Visible emission observations;

(viii) Any other form of measuring, recording, or verifying on a routine basis emissions, process parameters, capture system parameters, control device parameters or other factors relevant to assessing compliance with emission limitations or standards.

"Operating permit" means any permit or group of permits covering a source under Chapter 6, Section 3, Operating Permits that is issued, renewed, amended, or revised pursuant to Chapter 6, Section 3.

"Operating permit application" shall mean an application (including any supplement to a previously submitted application) that is submitted by the owner or operator in order to obtain a Chapter 6, Section 3, operating permit.

"Owner or operator" means any person who owns, leases, operates, controls or supervises a stationary source subject to this part.

"Pollutant-specific emissions unit" means an emissions unit considered separately with respect to each regulated air pollutant.

"Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

"Predictive emission monitoring system (PEMS)" means a system that uses process and other parameters as inputs to a computer program or other data reduction system to produce values in terms of the applicable emission limitation or standard.

"Regulated air pollutant" means the following:

(i) Nitrogen oxides (NO<sub>x</sub>) or any volatile organic compound;

(ii) Any pollutant for which a national ambient air quality standard has been promulgated;

(iii) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or section 111 of the Act;

(iv) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(v) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Act, including sections 112(g), (j), and (r) of the Act, including the following:

(A) Any pollutant subject to requirements under section 112(j) of the Act. If the EPA fails to promulgate a standard by the date established pursuant to section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Act; and

(B) Any pollutant for which the requirements of section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement.

(vi) Pollutants regulated solely under section 112(r) of the Act are to be regulated only with respect to the requirements of section 112(r) for permits issued under Chapter 6, Section 3, Operating Permits.

"Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act.

**(b) Applicability.**

(i) General applicability. Except for backup utility units that are exempt under paragraph (ii)(B) of this subsection (b), the requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a Chapter 6, Section 3, operating permit if the unit satisfies all of the following criteria:

(A) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (ii)(A) of this subsection (b);

(B) The unit uses a control device to achieve compliance with any such emission limitation or standard; and

(C) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as

"potential to emit", as defined in Chapter 7, Section 3(a), except that emission reductions achieved by the applicable control device shall not be taken into account.

(ii) Exemptions.

(A) Exempt emission limitations or standards. The requirements of this part shall not apply to any of the following emission limitations or standards:

(I) Emission limitations or standards proposed by the EPA Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act;

(II) Stratospheric ozone protection requirements under title VI of the Act;

(III) Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the Act;

(IV) Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by the Administrator under the Act that allows for trading emissions within a source or between sources;

(V) A federally enforceable emissions cap included in the Chapter 6, Section 3 operating permit;

(VI) Emission limitations or standards for which a Chapter 6, Section 3, operating permit specifies a continuous compliance determination method, as defined in Chapter 7, Section 3(a). The exemption provided in (b)(ii)(A)(VI) of this section shall not apply if the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (such as a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

(B) Exemption for backup utility power emissions units. The requirements of this part shall not apply to a utility unit, as defined in §72.2 of Chapter 11, Section 2(b) that is municipally-owned if the owner or operator provides documentation in a Chapter 6, Section 3, operating permit application that:

(I) The utility unit is exempt from all monitoring requirements in Chapter 11, Section 2(b), Acid Rain, Continuous emission monitoring (including the appendices thereto);

(II) The utility unit is operated for the sole purpose of providing electricity during periods of peak electrical demand or emergency situations and will be operated consistent with that purpose throughout the Chapter 6, Section 3, operating permit term. The owner or operator shall provide historical operating data and relevant contractual obligations to document that this criterion is satisfied; and

(III) The actual emissions from the utility unit, based on the average annual emissions over the last three calendar years of operation (or such shorter time period that is available for units with fewer than three years of operation) are less than 50 percent of the amount in tons per year required for a source to be classified as a major source and are expected to remain so.

**(c) Monitoring design criteria.**

(i) General criteria. To provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at a pollutant-specific emissions unit, monitoring under this part shall meet the following general criteria:

(A) The owner or operator shall design the monitoring to obtain data for one or more indicators of emission control performance for the control device, any associated capture system and, if necessary to satisfy paragraph (c)(i)(B) of this section, processes at a pollutant-specific emissions unit. Indicators of performance may include, but are not limited to, direct or predicted emissions (including visible emissions or opacity), process and control device parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities conducted by the owner or operator. (B) The owner or operator shall establish an appropriate range(s) or designated condition(s) for the selected indicator(s) such that operation within the ranges provides a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions. Such range(s) or condition(s) shall reflect the proper operation and maintenance of the control device (and associated capture system), in accordance with applicable design properties, for minimizing emissions over the anticipated range of operating conditions at least to the level required to achieve compliance with the applicable requirements. The reasonable assurance of compliance will be assessed by maintaining performance within the indicator range(s) or designated condition(s). The ranges shall be established in accordance with the design and performance requirements in this section and documented in accordance with the requirements in Chapter 7, Section 3(d). If

necessary to assure that the control device and associated capture system can satisfy this criterion, the owner or operator shall monitor appropriate process operational parameters (such as total throughput where necessary to stay within the rated capacity for a control device). In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor indicators to detect any bypass of the control device (or capture system) to the atmosphere, if such bypass can occur based on the design of the pollutant-specific emissions unit.

(C) The design of indicator ranges or designated conditions may be:

(I) Based on a single maximum or minimum value if appropriate (e.g., maintaining condenser temperatures a certain number of degrees below the condensation temperature of the applicable compound(s) being processed) or at multiple levels that are relevant to distinctly different operating conditions (e.g., high versus low load levels);

(II) Expressed as a function of process variables (e.g., an indicator range expressed as minimum to maximum pressure drop across a venturi throat in a particulate control scrubber);

(III) Expressed as maintaining the applicable parameter in a particular operational status or designated condition (e.g., position of a damper controlling gas flow to the atmosphere through a by-pass duct);

(IV) Established as interdependent between more than one indicator.

(ii) Performance criteria. The owner or operator shall design the monitoring to meet the following performance criteria:

(A) Specifications that provide for obtaining data that are representative of the emissions or parameters being monitored (such as detector location and installation specifications, if applicable);

(B) For new or modified monitoring equipment, verification procedures to confirm the operational status of the monitoring prior to the date by which the owner or operator must conduct monitoring under this part as specified in Chapter 7, Section 3(g)(i). The owner or operator shall consider the monitoring equipment manufacturer's requirements or recommendations for installation, calibration, and start-up operation;

(C) Quality assurance and control practices that are adequate to ensure the continuing validity of the data. The owner or operator shall consider manufacturer recommendations or requirements applicable to the monitoring in developing appropriate

quality assurance and control practices;

(D) Specifications for the frequency of conducting the monitoring, the data collection procedures that will be used (e.g., computerized data acquisition and handling, alarm sensor, or manual log entries based on gauge readings), and, if applicable, the period over which discrete data points will be averaged for the purpose of determining whether an excursion or exceedance has occurred.

(I) At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

(II) For all pollutant-specific emissions units with the potential to emit, calculated including the effect of control devices, the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, 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 as determined in accordance with paragraph (c)(ii)(D)(I) of this section. The Division may approve a reduced data collection frequency, if appropriate, based on information presented by the owner or operator concerning the data collection mechanisms available for a particular parameter for the particular pollutant-specific emissions unit (e.g., integrated raw material or fuel analysis data, noninstrumental measurement of waste feed rate or visible emissions, use of a portable analyzer or an alarm sensor).

(III) For other pollutant-specific emissions units, the frequency of data collection may be less than the frequency specified in subparagraph (c)(ii)(D)(II) of this section but the monitoring shall include some data collection at least once per 24-hour period (e.g., a daily inspection of a carbon adsorber operation in conjunction with a weekly or monthly check of emissions with a portable analyzer).

(iii) Evaluation factors. In designing monitoring to meet the requirements in paragraphs (c)(i) and (c)(ii) of this section, the owner or operator shall take into account site-specific factors including the applicability of existing monitoring

equipment and procedures, the ability of the monitoring to account for process and control device operational variability, the reliability and latitude built into the control technology, and the level of actual emissions relative to the compliance limitation.

(iv) Special criteria for the use of continuous emission, opacity or predictive monitoring systems.

(A) If a continuous emission monitoring system (CEMS), continuous opacity monitoring system (COMS) or predictive emission monitoring system (PEMS) is required pursuant to other authority under the Act or state or local law, the owner or operator shall use such system to satisfy the requirements of this section.

(B) The use of a CEMS, COMS, or PEMS that satisfies any of the following monitoring requirements shall be deemed to satisfy the general design criteria in paragraphs (c)(i) and (c)(ii) of this section, provided that a COMS may be subject to the criteria for establishing indicator ranges under paragraph (c)(i) of this section:

(I) Section 51.214 and Appendix P of 40 CFR part 51;

(II) Chapter 5, Section 2(j) and Section 2(b)(i), 40 CFR part 60, Appendix B;

(III) Chapter 5, Section 3(j) and any applicable performance specifications required pursuant to the applicable subpart of Chapter 5, Section 3;

(IV) Chapter 11, Section 2b, Acid Rain, Continuous emission monitoring;

(V) 40 CFR part 266, Subpart H and appendix IX; or

(VI) If an applicable requirement does not otherwise require compliance with the requirements listed in the preceding paragraphs (c)(iv)(B)(I)-(V) of this section, comparable requirements and specifications established by the Division.

(C) The owner or operator shall design the monitoring system subject to subsection (c)(iv) to:

(I) Allow for reporting of exceedances (or excursions if applicable to a COMS used to assure compliance with a particulate matter standard), consistent with any period for reporting of exceedances in an underlying requirement. If an underlying requirement does not contain a provision for establishing an averaging period for the reporting of exceedances or excursions, the criteria used to develop an averaging period in (c)(ii)(D) of this section shall apply; and

(II) Provide an indicator range consistent with paragraph (c)(i) of this section for a COMS used to assure compliance with a particulate matter standard. If an opacity

standard applies to the pollutant-specific emissions unit, such limit may be used as the appropriate indicator range unless the opacity limit fails to meet the criteria in paragraph (c)(i) of this section after considering the type of control device and other site-specific factors applicable to the pollutant-specific emissions unit.

**(d) Submittal requirements.**

(i) The owner or operator shall submit to the Division monitoring that satisfies the design requirements in Chapter 7, Section 3(c). The submission shall include the following information:

(A) The indicators to be monitored to satisfy Chapter 7, Section 3(c)(i)(A)-(B);

(B) The ranges or designated conditions for such indicators, or the process by which such indicator ranges or designated conditions shall be established;

(C) The performance criteria for the monitoring to satisfy Chapter 7, Section 3(c)(ii); and

(D) If applicable, the indicator ranges and performance criteria for a CEMS, COMS or PEMS pursuant to Chapter 7, Section 3(c)(iv).

(ii) As part of the information submitted, the owner or operator shall submit a justification for the proposed elements of the monitoring. If the performance specifications proposed to satisfy Chapter 7, Section 3(c)(ii)(B) or (C) include differences from manufacturer recommendations, the owner or operator shall explain the reasons for the differences between the requirements proposed by the owner or operator and the manufacturer's recommendations or requirements. The owner or operator also shall submit any data supporting the justification, and may refer to generally available sources of information used to support the justification (such as generally available air pollution engineering manuals, or EPA publications on appropriate monitoring for various types of control devices or capture systems). To justify the appropriateness of the monitoring elements proposed, the owner or operator may rely in part on existing applicable requirements that establish the monitoring for the applicable pollutant-specific emissions unit or a similar unit. If an owner or operator relies on presumptively acceptable monitoring, no further justification for the appropriateness of that monitoring should be necessary other than an explanation of the applicability of such monitoring to the unit in question, unless data or information is brought forward to rebut the assumption. Presumptively acceptable monitoring includes:

(A) Presumptively acceptable or required monitoring approaches, established by the Division in a rule that constitutes part of the

applicable implementation plan required pursuant to title I of the Act, that are designed to achieve compliance with this section for particular pollutant-specific emissions units;

(B) Continuous emission, opacity or predictive emission monitoring systems that satisfy applicable monitoring requirements and performance specifications as specified in Chapter 7, Section 3(c)(iv);

(C) Excepted or alternative monitoring methods allowed or approved pursuant to Chapter 11, Section 2(b), Acid Rain, Continuous emission monitoring;

(D) Monitoring included for standards exempt from this section pursuant to Chapter 7, Section 3(b)(ii)(A)(I) or (VI) to the extent such monitoring is applicable to the performance of the control device (and associated capture system) for the pollutant-specific emissions unit; and

(E) Presumptively acceptable monitoring identified in guidance by EPA. Such guidance will address the requirements under Chapter 7, Section 3(d)(i),(ii) and (iii) to the extent practicable.

(iii) (A) Except as provided in Chapter 7, Section 3(d)(iv), the owner or operator shall submit control device (and process and capture system, if applicable) operating parameter data obtained during the conduct of the applicable compliance or performance test conducted under conditions specified by the applicable rule. If the applicable rule does not specify testing conditions or only partially specifies test conditions, the performance test generally shall be conducted under conditions representative of maximum emissions potential under anticipated operating conditions at the pollutant-specific emissions unit. Such data may be supplemented, if desired, by engineering assessments and manufacturer's recommendations to justify the indicator ranges (or, if applicable, the procedures for establishing such indicator ranges). Emission testing is not required to be conducted over the entire indicator range or range of potential emissions.

(B) The owner or operator must document that no changes to the pollutant-specific emissions unit, including the control device and capture system, have taken place that could result in a significant change in the control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted.

(iv) If existing data from unit-specific compliance or performance testing specified in Chapter 7, Section 3(d)(iii) are not available, the owner or operator:

(A) Shall submit a test plan and schedule for obtaining such data in accordance with Chapter 7, Section 3(d)(v); or

(B) May submit indicator ranges (or procedures for establishing indicator ranges) that rely on engineering assessments and other data, provided that the owner or operator demonstrates that factors specific to the type of monitoring, control device, or pollutant-specific emissions unit make compliance or performance testing unnecessary to establish indicator ranges at levels that satisfy the criteria in Chapter 7, Section 3(c)(i).

(v) If the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring for purposes of this part, the owner or operator shall include an implementation plan and schedule for installing, testing and performing any other appropriate activities prior to use of the monitoring. The implementation plan and schedule shall provide for use of the monitoring as expeditiously as practicable after approval of the monitoring in the Chapter 6, Section 3 operating permit pursuant to Chapter 7, Section 3(f), but in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval of the permit.

(vi) If a control device is common to more than one pollutant-specific emissions unit, the owner or operator may submit monitoring for the control device and identify the pollutant-specific emissions units affected and any process or associated capture device conditions that must be maintained or monitored in accordance with Chapter 7, Section 3(c)(i) rather than submit separate monitoring for each pollutant-specific emissions unit.

(vii) If a single pollutant-specific emissions unit is controlled by more than one control device similar in design and operation, the owner or operator may submit monitoring that applies to all the control devices and identify the control devices affected and any process or associated capture device conditions that must be maintained or monitored in accordance with Chapter 7, Section 3(c)(i) rather than submit a separate description of monitoring for each control device.

**(e) Deadlines for submittals.**

(i) Large pollutant-specific emissions units. For all pollutant-specific emissions units with the potential to emit (taking into account control devices to the extent appropriate under the definition of this term in Chapter 7, Section 3(a) the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in

tons per year, required for a source to be classified as a major source, the owner or operator shall submit the information required under Chapter 7, Section 3(d) at the following times:

(A) On or after April 20, 1998, the owner or operator shall submit information as part of an application for an initial Chapter 6, Section 3 operating permit if, by that date, the application either:

(I) Has not been filed; or

(II) Has not yet been determined to be complete by the Division.

(B) On or after April 20, 1998, the owner or operator shall submit information as part of an application for a significant permit revision under Chapter 6, Section 3, but only with respect to those pollutant-specific emissions units for which the proposed permit revision is applicable.

(C) The owner or operator shall submit any information not submitted under the deadlines set forth in Chapter 7, Section 3(e)(i)(A) and (B) as part of the application for the renewal of a Chapter 6, Section 3 operating permit.

(ii) Other pollutant-specific emissions units. For all other pollutant-specific emissions units subject to this part and not subject to Chapter 7, Section 3(e)(i), the owner or operator shall submit the information required under Chapter 7, Section 3(d) as part of an application for a renewal of a Chapter 6, Section 3 operating permit.

(iii) The effective date for the requirement to submit information under Chapter 7, Section 3(d) shall be as specified pursuant to Chapter 7, Section 3(e)(i)-(iii) and a permit reopening to require the submittal of information under this section shall not be required pursuant to Chapter 6, Section 3(d)(vii)(A)(I), provided, however, that, if a Chapter 6, Section 3 operating permit is reopened for cause by EPA or the Division pursuant to Chapter 6, Section 3(d)(vii)(A)(III) or (IV), the applicable agency may require the submittal of information under this section for those pollutant-specific emissions units that are subject to this part and that are affected by the permit reopening.

(iv) Prior to approval of monitoring that satisfies this part, the owner or operator is subject to the requirements of Chapter 6, Section 3(h)(i)(C)(1)(2.).

**(f) Approval of monitoring.**

(i) Based on an application that includes the information submitted in accordance with Chapter 7, Section 3(e), the Division shall act to approve the monitoring submitted by the owner or operator by confirming that the monitoring satisfies the requirements in

Chapter 7, Section 3(c).

(ii) In approving monitoring under this section, the Division may condition the approval on the owner or operator collecting additional data on the indicators to be monitored for a pollutant-specific emissions unit, including required compliance or performance testing, to confirm the ability of the monitoring to provide data that are sufficient to satisfy the requirements of this part and to confirm the appropriateness of an indicator range(s) or designated condition(s) proposed to satisfy Chapter 7, Section 3(c)(i)(B) and (C) and consistent with the schedule in Chapter 7, Section 3(d)(v).

(iii) If the Division approves the proposed monitoring, the Division shall establish one or more permit terms or conditions that specify the required monitoring in accordance with Chapter 6, Section 3(h)(i)(c)(I). At a minimum, the permit shall specify:

(A) The approved monitoring approach that includes all of the following:

(I) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);

(II) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and

(III) The performance requirements established to satisfy Chapter 7, Section 3(c)(ii) or (iv), as applicable.

(B) The means by which the owner or operator will define an exceedance or excursion for purposes of responding to and reporting exceedances or excursions under Chapter 7, Section 3(g) and (h). The permit shall specify the level at which an excursion or exceedance will be deemed to occur, including the appropriate averaging period associated with such exceedance or excursion. For defining an excursion from an indicator range or designated condition, the permit may either include the specific value(s) or condition(s) at which an excursion shall occur, or the specific procedures that will be used to establish that value or condition. If the latter, the permit shall specify appropriate notice procedures for the owner or operator to notify the Division upon any establishment or reestablishment of the value.

(C) The obligation to conduct the monitoring and fulfill the other obligations specified in Chapter 7, Section 3(g) through (i).

(D) If appropriate, a minimum data availability requirement for valid data collection for each averaging period, and, if appropriate, a minimum data availability

requirement for the averaging periods in a reporting period.

(iv) If the monitoring proposed by the owner or operator requires installation, testing or final verification of operational status, the Chapter 6, Section 3 operating permit shall include an enforceable schedule with appropriate milestones for completing such installation, testing, or final verification consistent with the requirements in Chapter 7, Section 3(d)(v).

(v) If the Division disapproves the proposed monitoring, the following applies:

(A) The draft or final permit shall include, at a minimum, monitoring that satisfies the requirements of Chapter 6, Section 3(h)(i)(C)(1)(2.);

(B) The Division shall include in the draft or final permit a compliance schedule for the source owner to submit monitoring that satisfies Chapter 7, Section 3(c) and (d), but in no case shall the owner or operator submit revised monitoring more than 180 days from the date of issuance of the Chapter 6, Section 3 operating permit; and

(C) If the source owner or operator does not submit the monitoring in accordance with the compliance schedule as required in Chapter 7, Section 3(f)(v)(B) or if the Division disapproves the monitoring submitted, the source owner or operator shall be deemed not in compliance with Chapter 7, Section 3, unless the source owner or operator successfully challenges the disapproval.

**(g) Operation of approved monitoring.**

(i) Commencement of operation. The owner or operator shall conduct the monitoring required under this part upon issuance of a Chapter 6, Section 3 operating permit that includes such monitoring, or by such later date specified in the permit pursuant to Chapter 7, Section 3(f)(v).

(ii) Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(iii) Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and

calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(iv) Response to excursions or exceedances.

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

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

(v) Documentation of need for improved monitoring. After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary, submit a proposed modification to the Chapter 6, Section 3 operating permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated

conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

**(h) Quality improvement plan (QIP) requirements.**

(i) Based on the results of a determination made under Chapter 7, Section 3(g)(iv)(B), the Administrator or the Division may require the owner or operator to develop and implement a QIP. Consistent with Chapter 7, Section 3(f)(iii)(C), the Chapter 6, Section 3 operating permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.

(ii) Elements of a QIP.

(A) The owner or operator shall maintain a written QIP, if required, and have it available for inspection.

(B) The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:

(I) Improved preventive maintenance practices.

(II) Process operation changes.

(III) Appropriate improvements to control methods.

(IV) Other steps appropriate to correct control performance.

(V) More frequent or improved monitoring (only in conjunction with one or more steps under Chapter 7, Section 3(h)(ii)(B)(I)-(IV)).

(iii) If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(iv) Following implementation of a QIP, upon any subsequent determination pursuant to Chapter 7, Section 3(g)(iv)(B), the Administrator or the Division may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

(A) Failed to address the cause of the control device performance problems; or

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

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

(i) Reporting and recordkeeping requirements.

**(i) General reporting requirements.**

(A) On and after the date specified in Chapter 7, Section 3(g)(i) by which the owner or operator must use monitoring that meets the requirements of this part, the owner or operator shall submit monitoring reports to the Division in accordance with Chapter 6, Section 3(h)(i)(C)(III).

(B) A report for monitoring under this part shall include, at a minimum, the information required under Chapter 6, Section 3(h)(i)(C)(III) and the following information, as applicable:

(I) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

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

(III) A description of the actions taken to implement a QIP during the reporting period as specified in Chapter 7, Section 3(h). Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(ii) General recordkeeping requirements.

(A) The owner or operator shall comply with the recordkeeping requirements specified in Chapter 6, Section 3(h)(i)(C)(II). The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Chapter 7, Section 3(h) and any activities undertaken to implement a quality

improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

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

*(j) Savings provisions.*

(i) Nothing in this part shall:

(A) Excuse the owner or operator of a

source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to Chapter 6, Section 2. The purpose of this part is to require, as part of the issuance of a permit under Chapter 6, Section 3, improved or new monitoring at those emissions units

where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

(B) Restrict or abrogate the authority of the Administrator or the Division to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

(C) Restrict or abrogate the authority of the Administrator or Division to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.