

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. 3-2-103

Issue Date: **June 14, 2011**
Expiration Date: **June 14, 2016**
Effective Date: **June 14, 2011**
Replaces Permit No.: **31-103**

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,

The Western Sugar Cooperative
Lovell *Plant*
(Amended August 14, 2014)
Section 10, Township 56 North, Range 96 West
Big Horn 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.

Steven A. Dietrich, Administrator
Air Quality Division

Date

John V. Corra, Director
Department of Environmental Quality

Date

WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

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GENERAL INFORMATION

(Amended August 14, 20014)

Company Name: **The Western Sugar Cooperative**

Mailing Address: **7555 E. Hampden Avenue, Suite 600**

City: **Denver** State: **CO** Zip: **80231**

Plant Name: **Lovell Plant**

Plant Location: **Section 10, Township 56 North, Range 96 West, Big Horn County, Wyoming**

Latitude / Longitude (WGS84): **44.8375/-108.4044**

Plant Mailing Address: **400 Great Western Avenue**

City: **Lovell** State: **WY** Zip: **82431**

Name of Owner: **The Western Sugar Cooperative** Phone: **(303) 830-3939**

Responsible Official: **reserved**

Plant Manager/Contact: **Ray Bode** Phone: **(307) 548-5016**

DEQ Air Quality Contact: **District Four Engineer** Phone: **(307) 332-6755**
510 Meadowview Drive
Lander, Wyoming 82520

SIC Code: **2063 - Beet sugar**

Description of Process: **This plant is rated at a slicing capacity of 3,100 tons of beets per day with the beets averaging 16.7 percent sugar content. The products of the plant are white sugar, animal feed pulp pellets, and molasses. The operation of the plant is seasonal.**

SOURCE EMISSION POINTS

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

| SOURCE ID# | SOURCE DESCRIPTION | SIZE | CH. 6, SEC. 2 PERMITS |
|-------------------|--|--|------------------------------|
| 2.1 | Erie City Boiler, Natural Gas Fired | 150 MMBtu/hr | AP-10267 |
| 2.2 | Erie City Boiler, Oil Fired | 750 gal/hr | AP-10267 |
| 3.1 | Union Boiler, Natural Gas Fired | 100 MMBtu/hr | AP-10267 |
| 3.2 | Union Boiler, Oil Fired | 667 gal/hr | AP-10267 |
| 4.0* | Pulp Dryer with Cyclone and Scrubber Coal Fired and Natural Gas Fired | 40 ton/hr (pulp) 3.1 ton/hr (coal) 15 MCF/hr (gas) | CT-1648, MD-82 |
| 5.0 | Pellet Mill with Cyclone | 8.5 ton/hr | None |
| 6.0 | Pellet Cooler with Cyclone and Baghouse | 8.5 ton/hr | None |
| 7.0 | Pulp Conveyor with Cyclone and Baghouse | 8.5 ton/hr | None |
| 8.0 | Steam Heated Sugar Granulator with Water Spray | 21 ton/hr | None |
| 9.0 | Air Drying Sugar Granulator with Water Spray | 21 ton/hr | None |
| 10.0 | Cleaver Brooks Boiler, Natural Gas Fired | 20 MMBtu/hr | None |
| 11.0 | Coal or Coke Fired Lime Kiln with Mikro-Pulsaire Baghouse | 4.6 ton/hr | MD-293 |
| 12.0 | Coal Handling System with Baghouse | 26.7 ton/hr | MD-82 |
| 13.0A 13.0B | Lime Slaker Vents | 2.6 ton/hr | AP-0928 |
| 14.0 | Beet Hauling-Fugitives with Water Spray | 230 ton/hr | None |
| Insignificant | (4) Space Heaters (3 Propane, 1 Kerosene) | 150,000 BTU | None |
| Fugitives | Coke, Limestone, and Beet Handling; Truck Hauling | N/A | None |

* Particulate and SO₂ emissions controlled by cyclone and wet scrubber.

TOTAL FACILITY ESTIMATED EMISSIONS

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

| POLLUTANT | EMISSIONS (TPY) |
|--|------------------------|
| CRITERIA POLLUTANT EMISSIONS | |
| Particulate Matter | 511.5 |
| PM ₁₀ Particulate Matter | 511.5 |
| Sulfur Dioxide (SO ₂) | 24.8 |
| Nitrogen Oxides (NO _x) | 323.3 |
| Carbon Monoxide (CO) | 55.3 |
| Volatile Organic Compounds (VOCs) | 23.7 |
| HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS | Negligible |

Emission estimates are from the operating permit application.

FACILITY-SPECIFIC PERMIT CONDITIONS

Facility-Wide Permit Conditions

- (F1) PERMIT SHIELD [WAQSR Ch 6, Sec 3(k)]
Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance.

Source-Specific Permit Conditions

- (F2) VISIBLE EMISSIONS [WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permits MD-82, MD-293 and Waiver AP-0928]
(a) Visible emissions shall not exceed the opacity specified in Table I.
(b) Visible emissions of any contaminant discharged into the atmosphere from any other single emission source 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 opacity.
- (F3) PARTICULATE EMISSIONS
[WAQSR Ch 3, Sec 2 Tables; Ch 6, Sec 2 Permits MD-82, MD-293 and Waiver AP-0928]
Emissions of particulate matter shall not exceed the limits specified in Table I.

| Table I: Particulate Emission and Opacity Limits | | | |
|--|------------------------------|------------------------|-------------|
| SOURCE | PROCESS WEIGHT RATE (ton/hr) | EMISSION LIMIT (lb/hr) | Opacity (%) |
| Erie City boiler (unit 2.1) | | | 20 |
| Union boiler (unit 3.1) | | | 40 |
| Pulp Dryer (unit 4.0) | | 27.5 | 20 |
| Pellet Mill (unit 5.0) | 8.5 | 17.2 | 40 |
| Pellet Cooler (unit 6.0) | 8.5 | 17.2 | 40 |
| Pulp Conveyor (unit 7.0) | 8.5 | 17.2 | 40 |
| Steam Heated Sugar Granulator (unit 8.0) | 21.0 | 23.7 | 20 |
| Air Drying Sugar Granulator (unit 9.0) | 21.0 | 31.5 | 40 |
| Cleaver Brooks boiler (unit 10.0) | | | 40 |
| Coke or Coal Fired Lime Kiln (unit 11.0) | | 0.5 | 10 |
| Coal Handling System (unit 12.0) | | 0.3 | 20 |
| Lime Slaker Vent Fan (unit 13.0A) | | 1.5 | 20 |
| Lime Slaker Vent Fan (unit 13.0B) | | 1.5 | 20 |

- (F4) ADDITIONAL PULP DRYER EMISSIONS AND OPERATION
[WAQSR Ch 6, Sec 2 Permits MD-82 and CT-1648]
(a) SO₂ emissions from the pulp dryer (unit 4.0) shall not exceed 9.0 lb/hr, and NO_x emissions shall not exceed 25.0 lb/hr and 67.2 TPY.
(b) The pulp dryer scrubbers shall be operated during all periods of pulp dryer operation.
(c) The annual operating hours for the pulp dryer and its associated equipment (units 5.0, 6.0, 7.0 and 12.0) shall not exceed 5374 hours per year.
(d) The pulp scroll that feeds the pulp dryer shall be equipped with a timer device to determine compliance with condition F4(c).
- (F5) FUEL BURNING EQUIPMENT [WAQSR Ch 3, Sec 3 and Ch 6, Sec 2 Waiver AP-10267]
(a) NO_x emissions from the Erie City boiler (unit 2.1) shall not exceed 0.20 lb/MMBtu heat input.
(b) NO_x emissions from the Union boiler (unit 3.1) and Cleaver Brooks boiler (unit 10.0) shall not exceed 0.23 lb/MMBtu heat input.
(c) Beginning the first calendar year following submission of the final notification of startup required by condition F16(a):

- (i) The sum of the actual NO_x emissions from the Erie City boiler and the Union boiler, on a calendar year basis, shall not exceed 73 TPY.
- (ii) This condition F5(c) shall be effective for 5 calendar years, after which it shall expire.

(F6) BOILER, BAGHOUSE, SCRUBBER, CYCLONE AND PULP DRYER TIMER DEVICE MAINTENANCE [WAQSR Ch 6, Sec 3(h)(i)(A); Ch 6, Sec 2 Permit CT-1648]

- (a) The permittee shall operate and maintain each boiler, scrubber and cyclone in accordance with the manufacturer's specifications and recommendations, or if unavailable, in accordance with good maintenance practices.
- (b) The permittee shall operate and maintain the timer device installed on the pulp scroll in accordance with the manufacturer's specifications and recommendations, or if unavailable, in accordance with good maintenance practices.
- (c) The permittee shall conduct preventative maintenance and inspections on all facility baghouses in accordance with the preventative maintenance inspection plan described in Appendix A of this permit.

Testing Requirements

(F7) PULP DRYER EMISSIONS TESTING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

- (a) The permittee shall measure SO₂ emissions from the pulp dryer (unit 4.0) at least once every five years for comparison with the emission limits specified in condition F4(a).
 - (i) For SO₂ emissions, Methods 1-4 and 6 or 6C shall be used, or
 - (ii) The testing may be conducted using a portable SO₂ emissions analyzer. The permittee must submit a test protocol to the division for approval at least 3 weeks prior to conducting the test.
 - (iii) An alternate method may be used upon prior approval by the Administrator.
- (b) The permittee shall test NO_x emissions from the pulp dryer at least once during each annual beet processing campaign to assess compliance with the NO_x emission limits in condition F4(a) of this permit.
 - (i) For NO_x emissions, Methods 1-4 and 7 or 7E shall be used, or
 - (ii) The testing shall be conducted using a portable NO_x emissions analyzer following the Division's portable analyzer monitoring protocol, or an alternative method approved by the Administrator. The Division's monitoring protocol is provided in Appendix B of this permit.
- (c) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F8) EMISSIONS TESTING FOR BOILERS [W.S. 35-11-110 and WAQSR Ch 6, Sec 2 Waiver AP-10267]

- (a) In the event fuel oil is burned as described in the Alternative Operating Scenario of this permit, testing shall be conducted according to the requirements in condition A2 of the Alternative Operating Scenario.
- (b) Testing for NO_x emissions from the Erie City boiler (unit 2.1) shall be conducted during the first sugar beet campaign after repair/replacement of the economizer on the boiler, authorized by AP-10267. In lieu of reference method testing as described in condition F9(iv), the permittee may use a portable analyzer, following the State of Wyoming's Portable Analyzer Protocol. The Division's monitoring protocol is provided in Appendix B of this permit.
- (c) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F9) ADDITIONAL EMISSIONS TESTING [W.S. 35-11-110]

- (a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. Should testing be required, test methods found at 40 CFR 60, Appendix A, shall be used as follows:
 - (i) For visible emissions, Method 9 shall be used.
 - (ii) For particulate emissions, Methods 1-4 and 5 shall be used.
 - (iii) For SO₂ emissions, Methods 1-4 and 6 or 6C shall be used.
 - (iv) For NO_x emissions, Methods 1-4 and 7 or 7E shall be used.
 - (v) For CO emissions, Methods 1-4 and 10 shall be used.
 - (vi) For alternative test methods, or methods used for other pollutants, the approval of the Administrator must be obtained prior to using the test method to measure emissions.
- (b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

Monitoring Requirements

- (F10) VISIBLE AND PARTICULATE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]
- (a) Periodic monitoring for visible emissions from the Erie City boiler (unit 2.1), the Union boiler (unit 3.1), and the Cleaver Brooks boiler (unit 10.0), shall consist of monitoring the type of fuel used to ensure natural gas is the sole fuel source for these units, except as provided in the alternative operating scenario in this permit.
 - (b) Periodic monitoring for visible emissions from the pellet mill (unit 5.0), pellet cooler (unit 6.0), pulp conveyor (unit 7.0), steam heated sugar granulator (unit 8.0), air drying sugar granulator (unit 9.0), coke or coal fired lime kiln (unit 11.0), coal handling system (unit 12.0), and each lime slaker vent fan (units 13.0A and 13.0B) shall consist of the following:
 - (i) The permittee shall conduct, at minimum during the campaign period, weekly visual observations to determine the presence of visible emissions.
 - (ii) The visual observations shall be conducted by a person who is educated on the general procedures for determining the presence of visible emissions but not necessarily certified to perform Method 9 observations.
 - (iii) If visual emissions are observed, the permittee shall take immediate corrective action.
 - (c) The permittee shall conduct, at minimum, twice during each campaign period, Method 9 observations of the pulp dryer (unit 4.0) to measure the opacity of visible emissions.
 - (i) The two observations per campaign shall be separated by at least 30 days.
 - (ii) The observations shall be conducted by a qualified observer certified in accordance with Section 3.1 of Method 9 and shall follow the requirements and procedures of Method 9.
 - (iii) If the source is in noncompliance with the opacity limit in condition F3, the permittee shall take immediate corrective action.
 - (d) Periodic monitoring for particulate emissions shall consist of the following:
 - (i) For the pellet mill (unit 5.0), the pellet cooler (unit 6.0), the pulp conveyor (unit 7.0), the steam heated sugar granulator (unit 8.0), the air drying sugar granulator (unit 9.0), the coke or coal fired lime kiln (unit 11.0), and the coal handling system (unit 12.0), the permittee shall conduct the visible emissions monitoring described in paragraph (b) of this condition, and adhere to the maintenance requirements in condition F6(a) and (c) of this permit.
 - (ii) For the lime slaker vents (units 13.0A and 13.0B), the permittee shall conduct visible emissions monitoring described in paragraph (b) of this condition.
- (F11) PULP DRYER MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 7, Sec 3 (c)(ii)]
- (a) The permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix C of this permit, for particulate emissions from the pulp dryer (unit 4.0) and shall conduct monitoring as follows:
 - (i) The permittee shall monitor, at minimum once daily, the water flow rate in gallons per minute to the scrubber.
 - (ii) An excursion is defined as a scrubber water flow rate outside of the indicator range specified in the approved CAM plan.
 - (iii) Operation outside of the ranges established in the approved CAM plan shall trigger immediate corrective action.
 - (iv) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.
 - (b) Periodic monitoring of SO₂ and NO_x emissions from the pulp dryer shall consist of testing specified in condition F7 of this permit.
 - (c) The permittee shall monitor the dates and duration of times when the pulp dryer scrubbers are not operating during pulp dryer operation.
 - (d) The permittee shall monitor the operating hours of the pulp dryer and associated equipment using the timer device required by condition F4(d).
- (F12) FUEL BURNING EQUIPMENT [WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 6, Sec 2 Waiver AP-10267]
- (a) Periodic monitoring of NO_x emissions from the Erie City boiler (unit 2.1), the Union boiler (unit 3.1), and the Cleaver Brooks boiler (unit 10.0) shall consist of operating and maintaining each unit as specified in condition F6 of this permit, and testing as follows:

- (i) For the Erie City boiler, conducting the testing required by condition F8(b) of this permit; thereafter measuring NO_x emissions at least once every five years.
 - (ii) For the Union boiler, the permittee shall measure NO_x emissions at least once every five years.
 - (iii) The permittee shall measure NO_x emissions from each boiler using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F9. The Division's monitoring protocol is attached as Appendix B of this permit.
- (b) Beginning the first calendar year following submission of the final notification of startup required by condition F16(a), the permittee shall track actual NO_x emissions from the Erie City and Union boilers on a calendar year basis. Upon completion of 5 calendar years of emission tracking, the requirements of this condition F12(b) shall expire.
- (i) For the Erie City boiler (unit 2.1), NO_x emissions shall be determined using the emission rate resulting from the test required by condition F8(b) and the actual natural gas usage of the boiler.
 - (ii) For the Union boiler (unit 3.1), NO_x emissions shall be determined using the emission rate resulting from the most recent stack test and the actual natural gas usage of the boiler.
 - (iii) In the event fuel oil is fired in the Erie City or Union boilers (unit 2.2 and 3.2), NO_x emissions shall be determined in accordance with the procedures used for actual emission determination in WAQSR Ch 6 Sec 3(f)(v)(A).

Recordkeeping Requirements

(F13) TESTING AND MONITORING RECORDS

[WAQSR Ch 6, Sec 3(h)(i)(C)(II) and Ch 6, Sec 2 Waiver AP-10267]

- (a) For any testing or monitoring required under conditions F7, F8, F9, and F12(a), 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.
 - (vii) Any corrective actions taken.
- (b) For any Method 9 observations required by the Division under condition F9 and F10, the permittee shall keep field records in accordance with Section 2.2 of Method 9.
- (c) For the visible emissions observations required by condition F10(b), the permittee shall record the date and time of each observation and the person conducting the observation; if visible emissions were detected; and any corrective actions taken.
- (d) For the daily measurements specified under condition F11(a) of this permit, the permittee shall record the water flow rate to the scrubber, date, time, and any corrective actions taken.
- (e) The permittee shall record the dates and duration of times when the pulp dryer scrubbers are not operating during pulp dryer operation.
- (f) The permittee shall record the pulp dryer (unit 4.0) operating hours for each calendar month as monitored by the timer device required by condition F4(d) of this permit.
- (g) For the monitoring required under condition F12(b), the permittee shall record the sum of NO_x emissions from the Erie City and Union boilers on a calendar year basis, including the calculations used.
- (h) The permittee shall retain on-site at the facility, the records 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.

(F14) ADDITIONAL CAM RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 7, Sec 3(i)(ii)]

- (a) For the CAM required under condition F11(a), the permittee shall maintain records of 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.

- (b) The permittee shall retain on-site at the facility, the records 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.
- (F15) MAINTENANCE RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II)]
- (a) The permittee shall record all maintenance activities performed on each boiler, scrubber, cyclone, and on the timer device installed on the pulp scroll, required by condition F6(a) and (b) of this permit.
 - (b) The permittee shall record all preventative maintenance and inspection activities performed on each baghouse, required by condition F6(c).
 - (c) The record of maintenance activities for each unit shall include:
 - (i) The maintenance activity performed;
 - (ii) The date and place 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 specifications and recommendations for the boilers, cyclones, and the time device installed on the pulp scroll or from the preventative maintenance inspection plan described in Appendix A of this permit.
 - (d) The permittee shall retain on-site at the facility, the records of each maintenance and inspection activity for a period of at least five years from the date of the maintenance activity.

Reporting Requirements

- (F16) NOTIFICATION OF STARTUP AND TESTING [WAQSR Ch 6, Sec 2 Waiver AP-10267]
- (a) The permittee shall provide written notification of the actual date of initial startup within 15 days after startup, in accordance with Chapter 6, Section 2(i)(ii) of the WAQSR, after each of the following modifications are complete:
 - (i) Replace/Repair economizer on Erie City Boiler
 - (ii) Replace/Repair economizer B on Union Boiler
 - (b) For testing required under condition F8(b), the permittee shall provide the Division at least 15 days prior notice of the test date.
- (F17) TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Waiver AP-10267]
- (a) The permittee shall report the results of the emissions tests required under condition F7, F8 or F12(a), and any additional testing required by the Division under condition F9, within 45 days of conducting the tests.
 - (b) The reports shall include the information specified under condition F13 of this permit and shall be submitted to the Division in accordance with condition G4.
- (F18) MONITORING REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III) and Ch 6, Sec 2 Waiver AP-10267]
- (a) The following shall be reported to the Division by July 31 each year for the previous 12 months period from July 1 to June 30:
 - (i) Documentation that all boiler units are firing natural gas as specified in condition F10(a) of this permit, except as allowed under the Alternative Operating Scenario.
 - (ii) Summary results of the visible emissions monitoring required under condition F10(b) of this permit. Only monitoring during which visible emissions are observed and any corrective actions taken upon observing visible emissions shall be included in the report. If no visible emissions are observed during the reporting period, this shall be stated in the report.
 - (iii) Results of the visible emissions monitoring required under condition F10(c) of this permit. Each opacity measurement and any corrective actions taken upon detecting noncompliance with opacity limitations shall be included in the report.
 - (iv) The results of CAM required under condition F11(a) of this permit for the cyclone and scrubber controlled pulp dryer shall include the following:
 - (A) A report which itemizes all time periods when the water flow rate to the pulp dryer scrubber is less than the range indicated in the CAM plan. If no excursions of the

parameter ranges have occurred during the reporting period, this shall be stated in the report.

- (B) Summary information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken;
 - (C) Summary information on the number, duration, and cause for monitor downtime incidents; and
 - (D) 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) The permittee shall report the total operating hours per calendar year recorded under condition F13(f) for the pulp dryer in the annual emissions inventory required by condition G9 of this permit.
 - (c) The permittee shall report to the Division, within 60 days after the end of each calendar year, the annual emissions from the Erie City and Union boilers determined under condition F12(b). The report shall be submitted for each year condition F5(c) is in effect.
 - (d) All instances of deviations from the conditions of this permit must be clearly identified in each report.
 - (e) The annual reports shall reference this permit condition F18 and shall be submitted in accordance with condition G4 of this permit.

(F19) MAINTENANCE REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

The following shall be reported to the Division by July 31 each year for the previous 12 months period from July 1 to June 30:

- (a) Whether the permittee has adhered to the manufacturer's specifications and recommendations or good maintenance practices for maintaining each boiler, scrubber, cyclone, and the timer device installed on the pulp scroll, as required under condition under condition F6(a) and (b) of this permit.
 - (i) Any deviation from the manufacturer's specifications and recommendations or good maintenance practices must be clearly identified in each report.
 - (ii) If the permittee has adhered to the manufacturer's specifications and recommendations or good maintenance practices during the reporting period, this shall be stated in the report.
- (b) Whether the permittee has adhered to the preventative maintenance inspection plan on all facility baghouses, described in Appendix A of this permit.
 - (i) Any deviations from the preventative maintenance inspection plan must be clearly identified in each report.
 - (ii) If the permittee has adhered to the preventative maintenance inspection plan during the reporting period, this shall be stated in the report.
- (c) The annual reports shall reference this permit condition F19 and shall be submitted in accordance with condition G4 of this permit.

(F20) GREENHOUSE GAS REPORTS [W.S. 35-11-110]

The permittee shall submit to the Division a summary of any report(s) required to be submitted to the EPA under 40 CFR Part 98.

- (a) The report(s) shall be submitted to the Division within 60 days of submission to EPA, in a format as specified by the Division.
- (b) The report(s) shall be submitted in accordance with condition G4(a)(i) of this permit, to the attention of the Division's Emission Inventory Program. A copy need not be sent to the DEQ Air Quality contact.

(F21) 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 which 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 G19, 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 unavoidable equipment malfunction shall be reported as specified in condition G19.)

- (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.

ALTERNATIVE OPERATING SCENARIO

- (A1) OIL FIRING [Division Letter November 6, 1996 and WAQSR Ch 3, Sec 2 and 3]
- (a) The permittee may operate the oil fired Erie City boiler (unit 2.2), and the oil fired Union boiler (unit 3.2) as oil fired sources only in the event natural gas availability is interrupted.
 - (b) For visible emissions of any contaminant discharged into the atmosphere:
 - (i) The oil fired Erie City boiler (unit 2.2) 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 opacity.
 - (ii) The oil fired Union boiler (unit 3.2) shall not exhibit greater than 40 percent opacity.
 - (c) Particulate and NO_x emissions from the oil-fired boilers shall not exceed the rates shown in Table II of this permit.
 - (d) All other conditions of this permit, except conditions F5(a) and (b) and F10(a) for the unit(s) operating under this Alternative Operating Scenario, shall remain enforceable during operation under this Alternative Operating Scenario.

| TABLE II. ALLOWABLE PARTICULATE AND NO _x EMISSIONS | | | |
|---|-------------|------------------------------|----------------------------------|
| SOURCE | FUEL TYPE | PARTICULATE LIMIT (lb/MMBtu) | NO _x LIMIT (lb/MMBtu) |
| Erie City boiler, oil fired (unit 2.2) | #6 Fuel Oil | 0.10 | 0.30 |
| Union boiler, oil fired (unit 3.2) | #6 Fuel Oil | 0.40 | 0.60 |

- (A2) PARTICULATE AND NO_x EMISSIONS TESTING [W.S. 35-11-110] (*Amended October 18, 2011*)
- (a) In the event fuel oil is burned for more than 7 days (168 hours) in any of the units listed in condition A1(a) during any campaign period, the permittee shall conduct daily Method 9 observations on the unit(s) burning fuel oil to measure the opacity of visible emissions.
 - (i) Method 9 observations shall begin no later than the first day after the 7 day (168 hour) time period has been exceeded, and shall occur every day thereafter during that campaign period that the unit(s) is burning fuel oil.
 - (ii) The observations of visible emissions shall be determined by a qualified observer certified in accordance with Section 3.1 of Method 9 and shall follow the requirements and procedures of Method 9.
 - (b) In the event fuel oil is burned for more than 14 days (336 hours) in the Erie City boiler (unit 2.2) and the Union boiler (unit 3.2) during any campaign period, the permittee shall measure particulate and NO_x emissions from the unit(s) exceeding the 14 day (336 hour) time period for comparison with the emission limits in Table II.
 - (i) The testing shall be conducted while the unit is burning fuel oil, prior to the end of the campaign period, unless an extension is granted by the Division to conduct the testing during the next campaign period. Such an extension must be requested by no later than the 14th day of fuel oil burning.
 - (ii) *Such testing shall not be required if the unit was tested as described by this permit condition A2 within the last five years and demonstrated compliance with condition A1.*
 - (c) Should testing be required under paragraphs (b) of this condition, test methods found at 40 CFR 60, Appendix A, shall be used as follows:
 - (i) For particulate emissions, Methods 1-4 and 5 shall be used.
 - (ii) The permittee shall measure NO_x emissions from each boiler using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F9. The Division's monitoring protocol is attached as Appendix B of this permit.
 - (d) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).
- (A3) RECORDKEEPING [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 3(h)(i)(I)(I)]
- (a) The permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the site a record of the scenario under which the affected unit is operating.

- (b) The permittee shall record the hours the units listed in A1(a) operate under this alternative operating scenario.
- (c) The permittee shall maintain records of the amount of oil burned under the alternative operating scenario during each campaign period.
- (d) For any Method 9 observations required under condition A2(a), the permittee shall keep field records in accordance with Section 2.2 of Method 9.
- (e) For any testing required under condition A2, 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.
 - (vii) Any corrective actions taken.
- (f) The permittee shall retain on-site at the facility the records of operating scenarios, each test, measurement, or observation and support information for a period of five years from the date the records are generated.

(A4) REPORTING [WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 September 30, 1993 Waiver]

- (a) The following shall be reported to the Division by July 31 each year for the previous 12-month period from July 1 to June 30:
 - (i) If the units listed in condition A1(a) did not operate under the Alternative Operating Scenario during the reporting period.
 - (ii) Results of any visible emissions monitoring required under condition A2(a) of this permit. Each opacity measurement and any corrective actions taken upon detecting noncompliance with opacity limitations shall be included in the report.
- (b) The permittee shall report the results of any testing required under condition A2(b) within 45 days of conducting the tests. The reports shall include the information specified under condition A3(e).
- (c) All instances of deviations from the conditions of this permit must be clearly identified in each report.
- (d) The reports shall reference this permit condition A4 and shall be submitted in accordance with condition G4 of this permit.

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

(Chapter 7, Section 3 is provided in Appendix D)

(CAM-1) COMPLIANCE ASSURANCE MONITORING REQUIREMENTS [WAQSR Ch 7, Sec 3(b) and (c)]

The permittee shall follow the CAM plan attached as Appendix C of this permit and meet all CAM requirements of WAQSR Chapter 7, Section 3 as they apply to particulate emissions from the cyclone and scrubber controlled Pulp Dryer (unit 4.0) Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Ch 7, Sec 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 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.

COMPLIANCE CERTIFICATION AND SCHEDULE

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

- (C1) (a) The permittee shall submit by July 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 Erie City boiler, the Union boiler, and the Cleaver Brooks boiler, the permittee shall assess compliance with condition F2(a) of this permit by verifying natural gas was the sole fuel source used as specified in condition F10(a), except during operation under the alternative operating scenario.
- (ii) For visible emissions from the other sources, the permittee shall assess compliance with condition F2 of this permit by conducting monitoring required by conditions F10(b) and (c).
- (iii) For particulate emissions, the permittee shall assess compliance with condition F3 of this permit based on the following:
- (A) For the pulp dryer (unit 4.0), by conducting CAM required by condition F11.
- (B) For the pellet mill (unit 5.0), pellet cooler (unit 6.0), pulp conveyor (unit 7.0), steam heated sugar granulator (unit 8.0), air drying sugar granulator (unit 9.0), and the coal handling system (unit 12.0), by conducting monitoring required by condition F10(d) and by operating and maintaining the control equipment as required by condition F6(b).
- (C) For the coke or coal fired lime kiln (unit 11.0), by conducting monitoring required by condition F10(d), and by operating and maintaining the equipment as required by conditions F6(a) and (c).
- (D) For the lime slaker vents (units 13.0A and 13.0B), the permittee shall conduct emissions monitoring required by condition F10(d).
- (iv) For SO₂ and NO_x emissions from the pulp dryer (unit 4.0), the permittee shall assess compliance with condition F4(a) of this permit by conducting testing required by condition F7.
- (v) For the pulp dryer scrubbers, the permittee shall assess compliance with condition F4(b) of this permit by conducting the monitoring required by condition F11(c).
- (vi) For the pulp dryer (unit 4.0) operating hours limit, the permittee shall assess compliance with condition F4(c) of this permit by conducting the monitoring required by condition F11(d).
- (vii) For NO_x emissions, the permittee shall assess compliance with condition F5 of this permit based on the following:
- (A) For the Erie City boiler (unit 2.1) and the Union boiler (unit 3.1), by operating and maintaining each unit as required by condition F6(a), by conducting monitoring required by condition F12 and by reviewing records maintained in accordance with conditions F13(a) and (g).
- (B) For the Cleaver Brooks boiler (unit 10.0), by operating and maintaining the unit as required by condition F6(a).
- (viii) For the maintenance requirements of condition F6, the permittee shall assess compliance by reviewing records maintained in accordance with condition F15.
- (ix) For the alternative operating scenario, the permittee shall assess compliance with condition A1 of this permit by reviewing records maintained in accordance with condition A3, and if necessary by conducting the testing required by condition A2.
- (x) For greenhouse gas reporting, the permittee shall assess compliance with condition F20 by verifying that reports were submitted in accordance with condition F20(b).
- (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, 1595 Wynkoop Street, Denver, CO 80202-1129.
- (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 Ch 6, Sec 3(h)(iii)(C) and (D)]

- (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) Unless otherwise noted elsewhere in this permit, 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
1595 Wynkoop Street
Denver, CO 80202-1129
- (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
1595 Wynkoop Street
Denver, CO 80202-1129

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) No permit revision is required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for 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.

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

- (G18) 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.

Unavoidable Equipment Malfunction: [WAQSR Ch 1, Sec 5]

- (G19) (a) Any source believing that any emissions in excess of established regulation limits or standards resulted from an unavoidable equipment malfunction, shall notify the Division within 24 hours of the incident via telephone, electronic mail, fax, or other similar method. A detailed description of the circumstances of the incident as described in paragraph 5(a)(i)(A) Chapter 1, including a corrective program directed at preventing future such incidents, must be submitted within 14 days of the onset of the incident. The Administrator may extend this 14-day time period for cause.
- (b) The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred.

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

- (G20) 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.

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

- (G21) 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.

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 Ch 3, Sec 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.
- (e) The permittee shall comply with all other requirements of WAQSR Ch 3, Sec 8.

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

- (G23) The permittee conducting an open burn shall comply with all rules and regulations of the Wyoming Department of Environmental Quality, Division of Air Quality, and with the Wyoming Environmental Quality Act.
- (a) No person shall burn prohibited materials using an open burning method, except as may be authorized by permit. "*Prohibited materials*" means substances including, but not limited to; natural or synthetic rubber products, including tires; waste petroleum products, such as oil or used oil filters; insulated wire; plastic products, including polyvinyl chloride ("PVC") pipe, tubing and connectors; tar, asphalt, asphalt shingles, or tar paper; railroad ties; wood, wood waste, or lumber that is painted or chemically treated; explosives or ammunition; batteries; hazardous waste products; asbestos or asbestos containing materials; or materials which cause dense smoke discharges, excluding refuse and flaring associated with oil and gas well testing, completions and well workovers.
- (b) No person or organization shall conduct or cause or permit open burning for the disposal of trade wastes, for a salvage operation, for the destruction of fire hazards if so designated by a jurisdictional fire authority, or for fire fighting training, except when it can be shown by a person or organization that such open burning is absolutely necessary and in the public interest. Any person or organization intending to engage in such open burning shall file a request to do so with the Division.

Sulfur Dioxide Emission Trading and Inventory Program [WAQSR Ch 14]

- (G24) Any BART (Best Available Retrofit Technology) eligible facility, or facility which has actual emissions of SO₂ greater than 100 tpy in calendar year 2000 or any subsequent year, shall comply with the applicable requirements of WAQSR Ch 14, Sections 1 through 3, with the exceptions described in sections 2(c) and 3(a).

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

- (G25) 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" is 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 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:

| POLLUTANT | STANDARD | CONDITION | WAQSR CH. 2, SEC. |
|--------------------------------------|--|--|------------------------------|
| PM ₁₀ particulate matter | 50 micrograms per cubic meter | annual arithmetic mean | 2 (a) |
| | 150 micrograms per cubic meter | 24-hr average concentration with not more than one exceedance per year | |
| PM _{2.5} particulate matter | 15 micrograms per cubic meter | annual arithmetic mean | 2 (b) |
| | 35 micrograms per cubic meter | 98 th 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 |
| 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 ₃ per 100 square centimeters per day | maximum annual average | 8 |
| | 0.50 milligrams SO ₃ per 100 square centimeters per day | maximum 30-day value | |
| Lead and its compounds | 0.15 micrograms per cubic meter | maximum arithmetic 3-month mean concentration for a 3-year period | 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#: 2.1

Source Description: Erie City Boiler, Natural Gas Fired

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-----------------|---|--|---|--|---|--|
| Particulate | 20 percent opacity [F2] | WAQSR Ch 3, Sec 2 | Testing if required [F9] | Verification of natural gas firing [F10] | Record the results of any additional testing [F13] | Report any test results [F17] Report type of fuel fired [F18] Report excess emissions and permit deviations [F21] |
| NO _x | 0.20 lb/MMBtu [F5] 73 TPY total annual emissions from Erie City and Union boilers [F5] Conduct maintenance [F6] | WAQSR Ch 3, Sec 3 WAQSR Ch 6, Sec 3 (h)(i)(A) WAQSR Ch 6, Sec 2 Waiver AP-10267 | Test once during first sugar campaign after repair [F8] Testing if required [F9] | Actual NO _x tracking [F12] | Record the results of any additional testing [F13] Record monitoring [F13] Record maintenance [F15] | Report any test results [F17] Report monitoring results [F18] Report maintenance annually [F19] Report excess emissions and permit deviations [F21] |

Source ID#: 3.1

Source Description: Union Boiler, Natural Gas Fired

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-----------------|---|--|--------------------------|--|---|--|
| Particulate | 40 percent opacity [F2] | WAQSR Ch 3, Sec 2 | Testing if required [F9] | Verification of natural gas firing [F10] | Record the results of any additional testing [F13] | Report any test results [F17] Report type of fuel fired [F18] Report excess emissions and permit deviations [F21] |
| NO _x | 0.23 lb/MMBtu [F5] 73 TPY total annual emissions from Erie City and Union boilers [F5] Conduct maintenance [F6] | WAQSR Ch 3, Sec 3 WAQSR Ch 6, Sec 3 (h)(i)(A) WAQSR Ch 6, Sec 2 Waiver AP-10267 | Testing if required [F9] | Once every 5 years NO _x monitoring [F12] Actual NO _x tracking [F12] | Record the results of any additional testing [F13] Record monitoring [F13] Record maintenance [F15] | Report any test results [F17] Report monitoring results [F18] Report maintenance annually [F19] Report excess emissions and permit deviations [F21] |

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#: 2.2 and 3.2

Source Description: Erie City and Union Boilers, Oil Fired

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-----------------|---|---|---|---------------------------------------|--|--|
| Particulate | 20 percent opacity for 2.2; 40 percent opacity for 3.2 [A1] Particulate: 0.10 lb/MMBtu for 2.2, 0.40 lb/MMBtu for 3.2 [A1] | WAQSR Ch 3, Sec 2 | Testing if required [F9] Test if burn oil [A2] | None | Record the results of any additional testing [F13] Alternative operating scenario records [A3] | Report any test results [F17] Report excess emissions and permit deviations [F21] Report any test results[A4] |
| NO _x | 0.30 lb/MMBtu for 2.2, 0.60 lb/MMBtu for 3.2 [A1] 73 TPY total annual emissions from Erie City and Union boilers [F5] | WAQSR Ch 3, Sec 2 WAQSR Ch 3, Sec 3 and Division letter 11/6/96 WAQSR Ch 6, Sec 2 Waiver AP-10267 | Testing if required [F9] Test if burn oil [A2] | Actual NO _x tracking [F12] | Record the results of any additional testing [F13] Record monitoring [F13] Alternative operating scenario records [A3] | Report any test results [F17] Report monitoring results [F18] Report excess emissions and permit deviations [F21] Report any test results[A4] |

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#: 4.0

Source Description: Pulp Dryer (Cyclone and Water Spray Scrubber-Controlled)

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-----------------|---|--|------------------------------------|--|--|---|
| Particulate | 20 percent opacity [F2] 27.5 lb/hr particulate[F3] | WAQSR Ch 3, Sec 2 WAQSR Ch 6, Sec 2 Permit MD-82 WAQSR Ch 6, Sec 3 (h)(i)(A) | Testing if required [F9] | Method 9 observations twice each campaign period [F10] Measure water flow rate to the scrubber daily for Compliance Assurance Monitoring (CAM) [F11 and CAM-1 to CAM-4] | Record visible emissions results [F13] Record CAM results [F13] and [F14] | Report visible emissions results annually [F18] Report CAM results annually [F18] Report excess emissions and permit deviations [F21] |
| SO ₂ | 9.0 lb/hr [F4] | WAQSR Ch 6, Sec 2 Permit MD-82 | Test once every five years [F7] | None | Record the results of testing [F13] | Report test results [F17] Report excess emissions and permit deviations [F2] |
| NO _x | 25.0 lb/hr and 67.2 TPY [F4] | WAQSR Ch 6, Sec 2 Permit CT-1648 | Test once per campaign period [F7] | None | Record the results of testing [F13] | Report test results [F17]. Report excess emissions and permit deviations [F21] |
| All | Operating hours limited to 5374 hours per year as determined using an installed timer device F4] Operate scrubbers during all periods of pulp dryer operation [F4] Maintain timer device [F6] | WAQSR Ch 6, Sec 2 Permit CT-1648 | None | Monitor scrubbers availability during pulp dryer operation [F11] | Record unavailability of scrubbers during pulp dryer operation [F13] Record unit operating hours monthly [F13] Record timer device maintenance [F15] | Report the unit annual operating hours [F18] Report adherence to manufacturer's maintenance for the timer device annually [F19] |

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#: 5.0, 6.0 and 7.0

Source Description: Pellet Mill (Cyclone Controlled), Pellet Cooler (Cyclone and Baghouse Controlled) and Pulp Conveyor (Cyclone and Baghouse Controlled)

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|--|--------------------------|---|---|---|
| Particulate | 40 percent opacity [F2] 17.2 lb/hr particulate [F3] Conduct maintenance [F6] | WAQSR Ch 3, Sec 2 WAQSR Ch 3, Sec 2(g) WAQSR Ch 6, Sec 3 (h)(i)(A) | Testing if required [F9] | Monitor visible emissions weekly [F10] Operation and maintenance [F10] | Record visible emissions monitoring results [F13] Record maintenance [F15] | Report visible emissions monitoring results annually [F18] Report maintenance and any deviations annually [F19] Report excess emissions and permit deviations [F21] |

Source ID#: 8.0

Source Description: Steam Heated Sugar Granulator (Wet Scrubber/Water Spray Controlled)

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|--|--------------------------|---|---|---|
| Particulate | 20 percent opacity [F2] 23.7 lb/hr particulate [F3] Conduct maintenance [F6] | WAQSR Ch 3, Sec 2 WAQSR Ch 3, Sec 2(g) WAQSR Ch 6, Sec 3 (h)(i)(A) | Testing if required [F9] | Monitor visible emissions weekly [F10] Operation and maintenance [F10] | Record visible emissions monitoring results [F13] Record maintenance [F15] | Report visible emissions monitoring results annually [F18] Report maintenance and any deviations annually [F19] Report excess emissions and permit deviations [F21] |

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#: 9.0

Source Description: Air Drying Sugar Granulator (Wet Scrubber/Water Spray Controlled)

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|--|--------------------------|---|---|---|
| Particulate | 40 percent opacity [F2] 31.5 lb/hr particulate [F3] Conduct maintenance [F6] | WAQSR Ch 3, Sec 2 WAQSR Ch 3, Sec 2(g) WAQSR Ch 6, Sec 3 (h)(i)(A) | Testing if required [F9] | Monitor visible emissions weekly [F10] Operation and maintenance [F10] | Record visible emissions monitoring results [F13] Record maintenance [F15] | Report visible emissions monitoring results annually [F18] Report maintenance and any deviations annually [F19] Report excess emissions and permit deviations [F21] |

Source ID#: 10.0

Source Description: Cleaver Brooks Boiler

| Pollutant | Emissions Limit/Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-----------------|--|--|--------------------------|--|--|--|
| Particulate | 40 percent opacity [F2] | WAQSR Ch 3, Sec 2 | Testing if required [F9] | Verification of natural gas firing [F10] | Record the results of any additional testing [F13] | Report type of fuel fired [F18] Report excess emissions and permit deviations [F21] |
| NO _x | 0.23 lb/MMBtu [F5] Conduct maintenance [F6] | WAQSR Ch 3, Sec 3 WAQSR Ch 6, Sec 3 (h)(i)(A) | Testing if required [F9] | Operation and maintenance [F12] | Record the results of any additional testing [F13] Record maintenance [F15] | Report maintenance annually [F19] Report excess emissions and permit deviations [F21] |

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#: 11.0

Source Description: **Coke or Coal Fired Lime Kiln (Baghouse Controlled)**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|---|--------------------------|--|---|---|
| Particulate | 10 percent opacity [F2] | WAQSR Ch 3, Sec 2 and Ch 6, Sec 2 Permit MD-293 | Testing if required [F9] | Monitor visible emissions weekly [F10] Operation and maintenance, and reliance on historical test results [F10] | Record visible emissions monitoring results [F13] Record maintenance [F15] | Report visible emissions monitoring results annually [F18] Report maintenance and any deviations annually [F19] Report excess emissions and permit deviations [F21] |
| | 0.5 lb/hr particulate [F3] | | | | | |
| | Conduct maintenance [F6] | WAQSR Ch 3, Sec 2(g) WAQSR Ch 6, Sec 3 (h)(i)(A) | | | | |

Source ID#: 12.0

Source Description: **Coal Handling System (Baghouse Controlled)**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|-----------------------------|--------------------------|---|---|---|
| Particulate | 20 percent opacity [F2] | WAQSR Ch 3, Sec 2 | Testing if required [F9] | Monitor visible emissions weekly [F10] Operation and maintenance [F10] | Record visible emissions monitoring results [F13] Record maintenance [F15] | Report visible emissions monitoring results annually [F18] Report maintenance and any deviations annually [F19] Report excess emissions and permit deviations [F21] |
| | 0.3 lb/hr particulate [F3] | WAQSR Ch 3, Sec 2(g) | | | | |
| | Conduct maintenance [F6] | WAQSR Ch 6, Sec 3 (h)(i)(A) | | | | |

Source ID#: 13.0A and 13.0B

Source Description: **Lime Slaker Vents**

| Pollutant | Emissions Limit / Work Practice Standard | Corresponding Regulation(s) | Testing Requirements | Monitoring Requirements | Recordkeeping Requirements | Reporting Requirements |
|-------------|--|-------------------------------------|--------------------------|--|---|---|
| Particulate | 20 percent opacity [F2] | WAQSR Ch 3, Sec 2 | Testing if required [F9] | Monitor visible emissions weekly [F10] | Record visible emissions monitoring results [F13] | Report visible emissions monitoring results annually [F18] Report excess emissions and permit deviations [F21] |
| | 1.5 lb/hr particulate [F3] | WAQSR Ch 6, Sec 2 Waiver AP-0928 | | | | |

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 feet 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) |
| ESP | Electrostatic Precipitator |
| g/hp-hr | Gram(s) per horsepower hour |
| gal | Gallon(s) |
| gr | Grain(s) |
| H ₂ S | Hydrogen sulfide |
| HAP(s) | Hazardous air pollutant(s) |
| hp | Horsepower |
| hr | Hour(s) |
| lb | Pound(s) |
| M | Thousand |
| MACT | Maximum available control technology (see Definitions) |
| mfr | Manufacturer |
| mg | Milligram(s) |
| MM | Million |
| MVACs | Motor vehicle air conditioners |
| N/A | Not applicable |
| NMHC(s) | Non-methane hydrocarbon(s) |
| NO _x | Oxides of nitrogen |
| O ₂ | Oxygen |
| OPP | Operating Permit Program |
| PM | Particulate matter |
| PM ₁₀ | 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) |
| QIP | Quality Improvement Plan |
| SCF | Standard cubic foot (feet) |
| SCFD | Standard cubic foot (feet) per day |
| SCM | Standard cubic meter(s) |
| SIC | Standard Industrial Classification |
| SO ₂ | Sulfur dioxide |
| SO ₃ | Sulfur trioxide |
| SO _x | Oxides of sulfur |
| TBD | To be determined |
| TPD | Ton(s) per day |
| TPH | Ton(s) per hour |
| 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 C.F.R. 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_x) 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
Preventative Maintenance Inspection Plan



PREVENTIVE MAINTENANCE INSPECTION (Campaign)

Supplement to regular weekly Preventive Maintenance inspection of Lime Kiln Area.

Lime Kiln Baghouse System

Top floor of Lime Kiln

Note any problems and corrective actions taken:

_____ Check Condition of structural supports and external construction of baghouse

_____ Check for air, dust, or oil leaks

_____ Check Fan for cracks, loose bolts, guards, bearing damage and belt slippage

_____ Check Electrical connections, control system and lighting

Record Magnehelic differential pressure reading _____

Record manifold air pressure reading _____

_____ Check piping, discharge stack to atmosphere and discharge piping to sewer

_____ Check emergency bypass for leakage

_____ Check discharge stack for visible dust

Notes: _____

Date performed: _____

Mechanic: _____

Supervisor: _____

Note: This completed form must be filed in the Laboratory environmental files.

WESTERN SUGAR COOPERATIVE - LOVELL WYOMING

PREVENTIVE MAINTENANCE INSPECTION (Campaign)

Supplement to regular weekly Preventive Maintenance inspection of Pulp Dryer Area.

Pellet Cooler Baghouse System

Pulp Dryer Building

Note any problems and corrective actions taken:

_____ Check Condition of structural supports and external construction of baghouse

_____ Check for air, dust, or oil leaks

_____ Check Fan for cracks, loose bolts, guards, bearing damage and belt slippage

_____ Check Electrical connections, control system and lighting

Record Magnehelic differential pressure reading _____

Record manifold air pressure reading _____

_____ Check piping, discharge stack to atmosphere and discharge piping to scroll

_____ Check emergency bypass for leakage

_____ Check discharge stack for visible dust

Notes: _____

Date performed: _____

Mechanic: _____

Supervisor: _____

Note: This completed form must be filed in the Laboratory environmental files.

PREVENTIVE MAINTENANCE INSPECTION (Campaign)

Supplement to regular weekly Preventive Maintenance inspection of Pulp Dryer Area.

Pulp Conveying Baghouse System

Pulp Dryer Building

Note any problems and corrective actions taken:

_____ Check Condition of structural supports and external construction of baghouse

_____ Check for air, dust, or oil leaks

_____ Check Fan for cracks, loose bolts, guards, bearing damage and belt slippage

_____ Check Electrical connections, control system and lighting

Record Magnehelic differential pressure reading _____

Record manifold air pressure reading _____

_____ Check piping, discharge stack to atmosphere and discharge piping to scroll

_____ Check emergency bypass for leakage

_____ Check discharge stack for visible dust

Notes: _____

Date performed: _____

Mechanic: _____

Supervisor: _____

Note: This completed form must be filed in the Laboratory environmental files.

PREVENTIVE MAINTENANCE INSPECTION (Campaign)

Supplement to regular weekly Preventive Maintenance inspection of Pulp Dryer Area.

Dryer Coal Baghouse System

Pulp Dryer Building

Note any problems and corrective actions taken:

_____ Check Condition of structural supports and external construction of baghouse

_____ Check for air, dust, or oil leaks

_____ Check Fan for cracks, loose bolts, guards, bearing damage and belt slippage

_____ Check Electrical connections, control system and lighting

Record Magnehelic differential pressure reading _____

Record manifold air pressure reading _____

_____ Check piping, discharge stack to atmosphere and discharge piping

_____ Check discharge stack for visible dust

Notes: _____

Date performed: _____

Mechanic: _____

Supervisor: _____

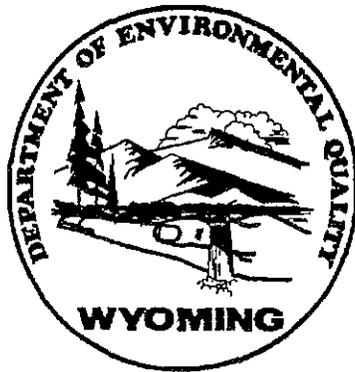
Note: This completed form must be filed in the Laboratory environmental files.

APPENDIX B
Portable Analyzer Monitoring Protocol



**STATE OF WYOMING AIR QUALITY DIVISION
PORTABLE ANALYZER MONITORING PROTOCOL**

**Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen Emissions
from Natural Gas-Fired Reciprocating Engines, Combustion Turbines,
Boilers, and Process Heaters Using Portable Analyzers**



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

April 21, 1999
Revised January 25, 2006

Approved By:

Dan Olson
Administrator

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1. APPLICABILITY AND PRINCIPLE

1.1 Applicability. This method is applicable to the determination of nitrogen oxides (NO and NO₂), carbon monoxide (CO), and oxygen (O₂) concentrations in controlled and uncontrolled emissions from natural gas-fired reciprocating engines, combustion turbines, boilers, and process heaters using portable analyzers with electrochemical cells. The use of reference method equivalent analyzers is acceptable provided the appropriate reference method procedures in 40 CFR 60, Appendix A are used. Due to the inherent cross sensitivities of the electrochemical cells, this method is not applicable to other pollutants.

1.2 Principle. A gas sample is continuously extracted from a stack and conveyed to a portable analyzer for determination of NO, NO₂, CO, and O₂ gas concentrations using electrochemical cells. Analyzer design specifications, performance specifications, and test procedures are provided to ensure reliable data. Additions to or modifications of vendor-supplied analyzers (e.g. heated sample line, flow meters, etc.) may be required to meet the design specifications of this test method.

2. RANGE AND SENSITIVITY

2.1 Analytical Range. The analytical range for each gas component is determined by the electrochemical cell design. A portion of the analytical range is selected to be the nominal range by choosing a span gas concentration near the flue gas concentrations or permitted emission level in accordance with Sections 2.1.1, 2.1.2 and 2.1.3.

2.1.1 CO and NO Span Gases. Choose a span gas concentration such that the average stack gas reading for each test is greater than 25 percent of the span gas concentration. Alternatively, choose the span gas such that it is not greater than 3.33 times the concentration equivalent to the emission standard. If concentration results exceed 125 percent of the span gas at any time during the test, then the test for that pollutant is invalid.

2.1.2 NO₂ Span Gas. Choose a span gas concentration such that the average stack gas reading for each test is greater than 25 percent of the span gas concentration. Alternatively, choose the span gas concentration such that it is not greater than the ppm concentration value of the NO span gas. The tester should be aware NO₂ cells are generally designed to measure much lower concentrations than NO cells and the span gas should be chosen accordingly. If concentration results exceed 125 percent of the span gas at any time during the test, then the test for that pollutant is invalid.

2.1.3 O₂ Span Gas. The O₂ span gas shall be dry ambient air at 20.9% O₂.

3. DEFINITIONS

3.1 Measurement System. The total equipment required for the determination of gas concentration. The measurement system consists of the following major subsystems:

3.1.1 Sample Interface. That portion of a system used for one or more of the following: sample acquisition, sample transport, sample conditioning, or protection of the electrochemical cells from particulate matter and condensed moisture.

3.1.2 External Interference Gas Scrubber. A tube filled with scrubbing agent used to remove interfering compounds upstream of some electrochemical cells.

3.1.3 Electrochemical (EC) Cell. That portion of the system that senses the gas to be measured and generates an output proportional to its concentration. Any cell that uses diffusion-limited oxidation and reduction reactions to produce an electrical potential between a sensing electrode and a counter electrode.

3.1.4 Data Recorder. It is recommended that the analyzers be equipped with a strip chart recorder, computer, or digital recorder for recording measurement data. However, the operator may record the test results manually in accordance with the requirements of Section 7.5.

3.2 Nominal Range. The range of concentrations over which each cell is operated (25 to 125 percent of span gas value). Several nominal ranges may be used for any given cell as long as the linearity and stability check results remain within specification.

3.3 Span Gas. The high level concentration gas chosen for each nominal range.

3.4 Zero Calibration Error. For the NO, NO₂ and CO channels, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level calibration gas. For the O₂ channel, the difference, expressed as percent O₂, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level calibration gas.

3.5 Span Calibration Error. For the NO, NO₂ and CO channels, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas. For the O₂ channel, the difference, expressed as percent O₂, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas.

3.6 Response Time. The amount of time required for the measurement system to display 95 percent of a step change in the NO or CO gas concentration on the data recorder (90 percent of a step change for NO₂).

3.7 Interference Check. A method of quantifying analytical interferences from components in the stack gas other than the analyte.

3.8 Linearity Check. A method of demonstrating the ability of a gas analyzer to respond consistently over a range of gas concentrations.

3.9 Stability Check. A method of demonstrating an electrochemical cell operated over a given nominal range provides a stable response and is not significantly affected by prolonged exposure to the analyte.

3.10 Stability Time. As determined during the stability check; the elapsed time from the start of the gas injection until a stable reading has been achieved.

3.11 Initial NO Cell Temperature. The temperature of the NO cell during the pretest calibration error check. Since the NO cell can experience significant zero drift with cell temperature changes in some situations, the cell temperature must be monitored if the analyzer does not display negative concentration results. Alternatively, manufacturer's documentation may be submitted showing the analyzer incorporates a NO cell temperature control and temperature exceedance warning system.

3.12 Test. The collection of emissions data from a source for an equal amount of time at each sample point and for a minimum of 21 minutes total.

4. MEASUREMENT SYSTEM PERFORMANCE SPECIFICATIONS

4.1 Zero Calibration Error. Less than or equal to ± 3 percent of the span gas value for NO, NO₂, and CO channels and less than or equal to ± 0.3 percent O₂ for the O₂ channel.

4.2 Span Calibration Error. Less than or equal to ± 5 percent of the span gas value for NO, NO₂, and CO channels and less than or equal to ± 0.5 percent O₂ for the O₂ channel.

4.3 Interference Response. The CO and NO interference responses must be less than or equal to 5 percent as calculated in accordance with Section 7.7.

4.4 Linearity. For the zero, mid-level, and span gases, the absolute value of the difference, expressed as a percent of the span gas, between the gas value and the analyzer response shall not be greater than 2.5 percent for NO, CO and O₂ cells and not greater than 3.0 percent for NO₂ cells.

4.5 Stability Check Response. The analyzer responses to CO, NO, and NO₂ span gases shall not vary more than 3.0 percent of span gas value over a 30-minute period or more than 2.0 percent of the span gas value over a 15-minute period.

4.6 CO Measurement, Hydrogen (H₂) Compensation. It is recommended that CO measurements be performed using a hydrogen-compensated EC cell since CO-measuring EC cells can experience significant reaction to the presence of H₂ in the gas stream. Sampling systems equipped with a scrubbing agent prior to the CO cell to remove H₂ interferent gases may also be used.

5. APPARATUS AND REAGENTS

5.1 Measurement System. Use any measurement system that meets the performance and design specifications in Sections 4 and 5 of this method. The sampling system shall maintain the gas sample at a temperature above the dew point up to the moisture removal system. The sample conditioning system shall be designed so there are no entrained water droplets in the gas sample when it contacts the electrochemical cells. A schematic of an acceptable measurement system is shown in Figure 1. The essential components of the measurement system are described below:

5.1.1 Sample Probe. Glass, stainless steel, or other nonreactive material, of sufficient length to sample per the requirements of Section 7. If necessary to prevent condensation, the sampling probe shall be heated.

5.1.2 Heated Sample Line. Heated (sufficient to prevent condensation) nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample gas to the moisture removal system. (Includes any particulate filters prior to the moisture removal system.)

5.1.3 Sample Transport Lines. Nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample from the moisture removal system to the sample pump, sample flow rate control, and electrochemical cells.

5.1.4 Calibration Assembly. A tee fitting to attach to the probe tip or where the probe attaches to the sample line for introducing calibration gases at ambient pressure during the calibration error checks. The vented end of the tee should have a flow indicator to ensure sufficient calibration gas flow. Alternatively use any other method that introduces calibration gases at the probe at atmospheric pressure.

5.1.5 Moisture Removal System. A chilled condenser or similar device (e.g., permeation dryer) to remove condensate continuously from the sample gas while maintaining minimal contact between the condensate and the sample gas.

5.1.6 Particulate Filter. Filters at the probe or the inlet or outlet of the moisture removal system and inlet of the analyzer may be used to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.7 Sample Pump. A leak-free pump to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The pump may be constructed of any material that is nonreactive to the gas being sampled.

5.1.8 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent during sampling and calibration error checks. The components shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.9 Gas Analyzer. A device containing electrochemical cells to determine the NO, NO₂, CO, and O₂ concentrations in the sample gas stream and, if necessary, to correct for interference effects. The analyzer shall meet the applicable performance specifications of Section 4. A means of controlling the analyzer flow rate and a device for determining proper sample flow rate (e.g., precision rotameter, pressure gauge downstream of all flow controls, etc.) shall be provided at the analyzer. (Note: Housing the analyzer in a clean, thermally-stable, vibration-free environment will minimize drift in the analyzer calibration, but this is not a requirement of the method.)

5.1.10 Data Recorder. A strip chart recorder, computer, or digital recorder, for recording measurement data. The data recorder resolution (i.e., readability) shall be at least 1 ppm for CO, NO, and NO₂; 0.1 percent O₂ for O₂; and one degree (C or F) for temperature.

5.1.11 External Interference Gas Scrubber. Used by some analyzers to remove interfering compounds upstream of a CO electrochemical cell. The scrubbing agent should be visible and should have a means of determining when the agent is exhausted (e.g., color indication).

5.1.12 NO Cell Temperature Indicator. A thermocouple, thermistor, or other device must be used to monitor the temperature of the NO electrochemical cell. The temperature may be monitored at the surface of the cell, within the cell or in the cell compartment. Alternatively, manufacturer's documentation may be submitted showing the analyzer incorporates a NO cell temperature control and temperature exceedance warning system.

5.1.13 Dilution Systems. The use of dilution systems will be allowed with prior approval of the Air Quality Division.

5.2 Calibration Gases. The CO, NO, and NO₂ calibration gases for the gas analyzer shall be CO in nitrogen or CO in nitrogen and O₂, NO in nitrogen, and NO₂ in air or nitrogen. The mid-level O₂ gas shall be O₂ in nitrogen.

5.2.1 Span Gases. Used for calibration error, linearity, and interference checks of each nominal range of each cell. Select concentrations according to procedures in Section 2.1. Clean dry air may be used as the span gas for the O₂ cell as specified in Section 2.1.3.

5.2.2 Mid-Level Gases. Select concentrations that are 40-60 percent of the span gas concentrations.

5.2.3 Zero Gas. Concentration of less than 0.25 percent of the span gas for each component. Ambient air may be used in a well ventilated area for the CO, NO, and NO₂ zero gases.

6. MEASUREMENT SYSTEM PERFORMANCE CHECK PROCEDURES. Perform the following procedures before the measurement of emissions under Section 7.

6.1 Calibration Gas Concentration Certification. For the mid-level and span cylinder gases, use calibration gases certified according to EPA Protocol 1 procedures. Calibration gases must meet the criteria under 40 CFR 60, Appendix F, Section 5.1.2 (3). Expired Protocol 1 gases may be recertified using the applicable reference methods.

6.2 Linearity Check. Conduct the following procedure once for each nominal range to be used on each electrochemical cell (NO, NO₂, CO, and O₂). After a linearity check is completed, it remains valid for five consecutive calendar days. After the five calendar day period has elapsed, the linearity check must be reaccomplished. Additionally, reaccomplish the linearity check if the cell is replaced. (If the stack NO₂ concentration is less than 5% of the stack NO concentration as determined using the emission test procedures under Section 7, the NO₂ linearity check is not required. However, the NO₂ cell shall be calibrated in accordance with the manufacturer's instructions, the pretest calibration error check and post test calibration error check shall be conducted in accordance with Section 7, and the test results shall be added to the NO test values to obtain a total NO_x concentration.)

6.2.1 Linearity Check Gases. For each cell obtain the following gases: zero (0-0.25 percent of nominal range), mid-level (40-60 percent of span gas concentration), and span gas (selected according to Section 2.1).

6.2.2 Linearity Check Procedure. If the analyzer uses an external interference gas scrubber with a color indicator, using the analyzer manufacturer's recommended procedure, verify the scrubbing agent is not depleted. After calibrating the analyzer with zero and span gases, inject the zero, mid-level, and span gases appropriate for each nominal range to be used on each cell. Gases need not be injected through the entire sample handling system. Purge the analyzer briefly with ambient air between gas injections. For each gas injection, verify the flow rate is constant and the analyzer responses have stabilized before recording the responses on Form A.

6.3 Interference Check. A CO cell response to the NO and NO₂ span gases or an NO cell response to the NO₂ span gas during the linearity check may indicate interferences. If these cell responses are observed during the linearity check, it may be desirable to quantify the CO cell response to the NO and NO₂ span gases and the NO cell response to the NO₂ span gas during the linearity check and use estimated stack gas CO, NO and NO₂ concentrations to evaluate whether or not the portable analyzer will meet the post test interference check requirements of Section 7.7. This evaluation using the linearity check data is optional. However, the interference checks under Section 7.7 are mandatory for each test.

6.4 Stability Check. Conduct the following procedure once for the maximum nominal range to be used on each electrochemical cell (NO, NO₂ and CO). After a stability check is completed, it remains valid for five consecutive calendar days. After the five calendar day period has elapsed, the stability check must be reaccomplished. Additionally, reaccomplish the stability check if the cell is replaced or if a cell is exposed to gas concentrations greater than 125 percent of the highest span gas concentration. (If the stack NO₂ concentration is less than 5% of the stack NO concentration as determined using the emission test procedures under Section 7, the NO₂ stability check is not required. However, the NO₂ cell shall be calibrated in accordance with the manufacturer's instructions, the pretest calibration error check and post test calibration error check shall be conducted in accordance with Section 7, and the test results shall be added to the NO test values to obtain a total NO_x concentration.)

6.4.1 Stability Check Procedure. Inject the span gas for the maximum nominal range to be used during the emission testing into the analyzer and record the analyzer response at least once per minute until the conclusion of the stability check. One-minute average values may be used instead of instantaneous readings. After the analyzer response has stabilized, continue to flow the span gas for at least a 30-minute stability check period. Make no adjustments to the analyzer during the stability check except to maintain constant flow. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. As an alternative, if the concentration reaches a peak value within five minutes, you may choose to record the data for at least a 15-minute stability check period following the peak.

6.4.2 Stability Check Calculations. Determine the highest and lowest concentrations recorded during the 30-minute period and record the results on Form B. The absolute value of the difference between the maximum and minimum values recorded during the 30-minute period must be less than 3.0 percent of the span gas concentration. Alternatively, record stability check data in the same manner for the 15-minute period following the peak concentration. The difference between the maximum and minimum values for the 15-minute period must be less than 2.0 percent of the span gas concentration.

7. EMISSION TEST PROCEDURES. Prior to performing the following emission test procedures, calibrate/challenge all electrochemical cells in the analyzer in accordance with the manufacturer's instructions.

7.1 Selection of Sampling Site and Sampling Points.

7.1.1 Reciprocating Engines. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction, or recirculation take-offs) and one half stack diameter upstream of the gas discharge to the atmosphere. Use a sampling location at a single point near the center of the duct.

7.1.2 Combustion Turbines. Select a sampling site and sample points according to the procedures in 40 CFR 60, Appendix A, Method 20. Alternatively, the tester may choose an alternative sampling location and/or sample from a single point in the center of the duct if previous test data demonstrate the stack gas concentrations of CO, NO_x, and O₂ do not vary significantly across the duct diameter.

7.1.3 Boilers/Process Heaters. Select a sampling site located at least two stack diameters downstream of any disturbance and one half stack diameter upstream of the gas discharge to the atmosphere. Use a sampling location at a single point near the center of the duct.

7.2 Warm Up Period. Assemble the sampling system and allow the analyzer and sample interface to warm up and adjust to ambient temperature at the location where the stack measurements will take place.

7.3 Pretest Calibration Error Check. Conduct a zero and span calibration error check before testing each new source. Conduct the calibration error check near the sampling location just prior to the start of an emissions test. Keep the analyzer in the same location until the post test calibration error check is conducted.

7.3.1 Scrubber Inspection. For analyzers that use an external interference gas scrubber tube, inspect the condition of the scrubbing agent and ensure it will not be exhausted during sampling. If scrubbing agents are recommended by the manufacturer, they should be in place during all sampling, calibration and performance checks.

7.3.2 Zero and Span Procedures. Inject the zero and span gases using the calibration assembly. Ensure the calibration gases flow through all parts of the sample interface. During this check, make no adjustments to the system except those necessary to achieve the correct calibration gas flow rate at the analyzer. Set the analyzer flow rate to the value recommended by the analyzer manufacturer. Allow each reading to stabilize before recording the result on Form C. The time allowed for the span gas to stabilize shall be no less than the stability time noted during the stability check. After achieving a stable response, disconnect the gas and briefly purge with ambient air.

7.3.3 Response Time Determination. Determine the NO and CO response times by observing the time required to respond to 95 percent of a step change in the analyzer response for both the zero and span gases. Note the longer of the two times as the response time. For the NO₂ span gas record the time required to respond to 90 percent of a step change.

7.3.4 Failed Pretest Calibration Error Check. If the zero and span calibration error check results are not within the specifications in Section 4, take corrective action and repeat the calibration error check until acceptable performance is achieved.

7.4 NO Cell Temperature Monitoring. Record the initial NO cell temperature during the pretest calibration error check on Form C and monitor and record the temperature regularly (at least once each 7 minutes) during the sample collection period on Form D. If at any time during sampling, the NO cell temperature is 85 degrees F or greater and has increased or decreased by more than 5 degrees F since the pretest calibration, stop sampling immediately and conduct a post test calibration error check per Section 7.6, re-zero the analyzer, and then conduct another pretest calibration error check per Section 7.3 before continuing. (It is recommended that testing be discontinued if the NO cell exceeds 85 degrees F since the design characteristics of the NO cell indicate a significant measurement error can occur as the temperature of the NO cell increases above this temperature. From a review of available data, these errors appear to result in a positive bias of the test results.)

Alternatively, manufacturer's documentation may be submitted showing the analyzer is configured with an automatic temperature control system to maintain the cell temperature below 85 degrees F (30 degrees centigrade) and provides automatic temperature reporting any time this temperature is exceeded. If automatic temperature control/exceedance reporting is used, test data collected when the NO cell temperature exceeds 85 degrees F is invalid.

7.5 Sample Collection. Position the sampling probe at the first sample point and begin sampling at the same rate used during the calibration error check. Maintain constant rate sampling (± 10 percent of the analyzer flow rate value used in Section 7.3.2) during the entire test. Sample for an equal period of time at each sample point. Sample the stack gas for at least twice the response time or the period of the stability time, whichever is greater, before collecting test data at each sample point. A 21 minute period shall be considered a test for each source. When sampling combustion turbines per Section 7.1.2, collect test data as required to meet the requirements of 40 CFR 60, Appendix A, Method 20. Data collection should be performed for

an equal amount of time at each sample point and for a minimum of 21 minutes total. The concentration data must be recorded either (1) at least once each minute, or (2) as a block average for the test using values sampled at least once each minute. Do not break any seals in the sample handling system until after the post test calibration error check (this includes opening the moisture removal system to drain condensate).

7.6 Post Test Calibration Error Check. Immediately after the test, conduct a zero and span calibration error check using the procedure in Section 7.3. Conduct the calibration error check at the sampling location. Make no changes to the sampling system or analyzer calibration until all of the calibration error check results have been recorded. If the zero or span calibration error exceeds the specifications in Section 4, then all test data collected since the previous calibration error check are invalid. If the sampling system is disassembled or the analyzer calibration is adjusted, repeat the pretest calibration error check before conducting the next test.

7.7 Interference Check. Use the post test calibration error check results and average emission concentrations for the test to calculate interference responses (I_{NO} and I_{CO}) for the CO and NO cells. If an interference response exceeds 5 percent, all emission test results since the last successful interference test for that compound are invalid.

7.7.1 CO Interference Response.

$$I_{CO} = \left[\left(\frac{R_{CO-NO}}{C_{NOG}} \right) \left(\frac{C_{NOS}}{C_{COS}} \right) + \left(\frac{R_{CO-NO_2}}{C_{NO_2G}} \right) \left(\frac{C_{NO_2S}}{C_{COS}} \right) \right] \times 100$$

- where:
- I_{CO} = CO interference response (percent)
 - R_{CO-NO} = CO response to NO span gas (ppm CO)
 - C_{NOG} = concentration of NO span gas (ppm NO)
 - C_{NOS} = concentration of NO in stack gas (ppm NO)
 - C_{COS} = concentration of CO in stack gas (ppm CO)
 - R_{CO-NO_2} = CO response to NO₂ span gas (ppm CO)
 - C_{NO_2G} = concentration of NO₂ span gas (ppm NO₂)
 - C_{NO_2S} = concentration of NO₂ in stack gas (ppm NO₂)

7.7.2 NO Interference Response.

$$I_{NO} = \left(\frac{R_{NO-NO_2}}{C_{NO_2G}} \right) \left(\frac{C_{NO_2S}}{C_{NO_xS}} \right) \times 100$$

- where:
- I_{NO} = NO interference response (percent)
 - R_{NO-NO_2} = NO response to NO_2 span gas (ppm NO)
 - C_{NO_2G} = concentration of NO_2 span gas (ppm NO_2)
 - C_{NO_2S} = concentration of NO_2 in stack gas (ppm NO_2)
 - C_{NO_xS} = concentration of NO_x in stack gas (ppm NO_x)

7.8 Re-Zero. At least once every three hours, recalibrate the analyzer at the zero level according to the manufacturer's instructions and conduct a pretest calibration error check before resuming sampling. If the analyzer is capable of reporting negative concentration data (at least 5 percent of the span gas below zero), then the tester is not required to re-zero the analyzer.

8. DATA COLLECTION. This section summarizes the data collection requirements for this protocol.

8.1 Linearity Check Data. Using Form A, record the analyzer responses in ppm NO, NO₂, and CO, and percent O₂ for the zero, mid-level, and span gases injected during the linearity check under Section 6.2.2. To evaluate any interferences, record the analyzer responses in ppm CO to the NO and NO₂ span gases and the analyzer response in ppm NO to the NO₂ span gas. Calculate the CO and NO interference responses using the equations under Sections 7.7.1 and 7.7.2, respectively, and estimated stack gas CO, NO and NO₂ concentrations.

8.2 Stability Check Data. Record the analyzer response at least once per minute during the stability check under Section 6.4.1. Use Form B for each pollutant (NO, NO₂, and CO). One-minute average values may be used instead of instantaneous readings. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. If the concentration reaches a peak value within five minutes of the gas injection, you may choose to record the data for at least a 15-minute stability check period following the peak. Use the information recorded to determine the analyzer stability under Section 6.4.2.

8.3 Pretest Calibration Error Check Data. On Form C, record the analyzer responses to the zero and span gases for NO, NO₂, CO, and O₂ injected prior to testing each new source. Record the calibration zero and span gas concentrations for NO, NO₂, CO, and O₂. For NO, NO₂ and CO, record the absolute difference between the analyzer response and the calibration gas concentration, divide by the span gas concentration, and multiply by 100 to obtain the percent of span. For O₂, record the absolute value of the difference between the analyzer response and the O₂ calibration gas concentration. Record whether the calibration is valid by comparing the percent of span or difference between the calibration gas concentration and analyzer O₂ response, as applicable, with the specifications under Section 4.1 for the zero calibrations and Section 4.2 for the span calibrations. Record the response times for the NO, CO, and NO₂ zero and span

gases as described under Section 7.3.3. Select the longer of the two times for each pollutant as the response time for that pollutant. Record the NO cell temperature during the pretest calibration.

8.4 Test Data. On Form D-1, D-2, or D-3, record the source operating parameters during the test. Record the test start and end times. Record the NO cell temperature after one third of the test (e.g., after seven minutes) and after two thirds of the test (e.g., after 14 minutes). From the analyzer responses recorded each minute during the test, obtain the average flue gas concentration of each pollutant. These are the uncorrected test results.

8.5 Post Test Calibration Error Check Data. On Form C, record the analyzer responses to the zero and span gases for NO, NO₂, CO, and O₂ injected immediately after the test. To evaluate any interferences, record the analyzer responses in ppm CO to the NO and NO₂ span gases and the analyzer response in ppm NO to the NO₂ span gas. Record the calibration zero and span gas concentrations for NO, NO₂, CO, and O₂. For NO, NO₂ and CO, record the absolute difference between the analyzer response and the calibration gas concentration, divide by the span gas concentration, and multiply by 100 to obtain the percent of span. For O₂, record the absolute value of the difference between the analyzer response and the O₂ calibration gas concentration. Record whether the calibration is valid by comparing the percent of span or difference between the calibration gas concentration and analyzer O₂ response, as applicable, with the specifications under Section 4.1 for the zero calibrations and Section 4.2 for the span calibrations. (If the pretest and post test calibration error check results are not within the limits specified in Sections 4.1 and 4.2, data collected during the test is invalid and the test must be repeated.) Record the NO cell temperature during the post test calibration. Calculate the average of the monitor readings during the pretest and post test calibration error checks for the zero and span gases for NO, NO₂, CO, and O₂. The pretest and post test calibration error check results are used to make the calibration corrections under Section 9.1. Calculate the CO and NO interference responses using the equations under Sections 7.7.1 and 7.7.2, respectively and measured stack gas CO, NO and NO₂ concentrations.

8.6 Corrected Test Results. Correct the test results using the equation under Section 9.1. Add the corrected NO and NO₂ concentrations together to obtain the corrected NO_x concentration. Calculate the emission rates using the equations under Section 10 for comparison with the emission limits. Record the results on Form D-1, D-2, or D-3. Sign the certification regarding the accuracy and representation of the emissions from the source.

9. CALIBRATION CORRECTIONS

9.1 Emission Data Corrections. Emissions data shall be corrected for a test using the following equation. (Note: If the pretest and post test calibration error check results are not within the limits specified in Sections 4.1 and 4.2, the test results are invalid and the test must be repeated.)

$$C_{Corrected} = (C_R - C_O) \frac{C_{MA}}{C_M - C_O}$$

where: $C_{Corrected}$ = corrected flue gas concentration (ppm)
 C_R = flue gas concentration indicated by gas analyzer (ppm)
 C_O = average of pretest and post test analyzer readings during the zero checks (ppm)
 C_M = average of pretest and post test analyzer readings during the span checks (ppm)
 C_{MA} = actual concentration of span gas (ppm)

10. EMISSION CALCULATIONS

10.1 Emission Calculations for Reciprocating Engines and Combustion Turbines.

Emissions shall be calculated and reported in units of the allowable emission limit as specified in the permit. The allowable may be stated in pounds per hour (lb/hr), grams per horsepower hour (gm/hp-hr), or both. EPA Reference Method 19 shall be used as the basis for calculating the emissions. As an alternative, EPA Reference Methods 1-4 may be used to obtain a stack volumetric flow rate.

10.1.1 Reciprocating Engines and Combustion Turbines Above 500 Horsepower. All reciprocating engines and combustion turbines above 500 horsepower (site-rated) should be

equipped with fuel flow meters for measuring fuel consumption during the portable analyzer test. The fuel meter shall be maintained and calibrated according to the manufacturer's recommendations. Records of all maintenance and calibrations shall be kept for five years. Reciprocating engines above 500 horsepower which are not equipped with fuel flow meters may use the site-rated horsepower and default specific fuel consumption factors, based on the higher heating value of the fuel, of 9,400 Btu/hp-hr for 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines and 11,000 Btu/hp-hr for 2-cycle uncontrolled (non-lean burn) engines to calculate emission rates. Emissions shall be calculated using the following methods.

10.1.1.1 Reciprocating Engines and Combustion Turbines Equipped with Fuel Meters.

EPA Reference Method 19 and heat input per hour (MMBtu/hr) shall be used to calculate a pound per hour emission rate. Heat input per hour shall be based on the average hourly fuel usage rate during the test and the higher heating value of the fuel consumed. The emission rates shall be calculated using the following equations.

$$lb/hr NO_x = (ppm NO_{x\text{corrected}})(1.19 \times 10^{-7})(F\ Factor_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\%_{\text{corrected}}}\right)(Heat\ Input\ Per\ Hour_{\text{Note 2}})$$

$$lb/hr CO = (ppm CO_{\text{corrected}})(7.27 \times 10^{-8})(F\ Factor_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\%_{\text{corrected}}}\right)(Heat\ Input\ Per\ Hour_{\text{Note 2}})$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and higher heating value of the fuel.

Note 2 - Heat input per hour (MMBtu/hr) shall be based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed.

If the reciprocating engine or combustion turbine horsepower can be derived from operating conditions during the portable analyzer test, this derived horsepower should be used to calculate a gram per horsepower hour emission rate using the following equations. Information showing the derivation of the horsepower shall be provided with the test results.

$$gm/hp - hr CO = \frac{(lb/hr CO)(454)}{(Tested Horsepower_{Note 1})}$$

$$gm/hp - hr NO_x = \frac{(lb/hr NO_x)(454)}{(Tested Horsepower_{Note 1})}$$

Note 1 - Horsepower determined during the test.

If the reciprocating engine horsepower during the time of testing cannot be determined from the operating data, the operating horsepower for the time of the test shall be calculated based on the heat input per hour during the test and the default values shown below for specific fuel consumption based on the higher heating value of the fuel. Heat input per hour (MMBtu/hr) shall be calculated based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed. For 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines, use a default specific fuel consumption of 9,400 Btu/hp-hr. For 2-cycle uncontrolled (non-lean burn) engines, use a default specific fuel consumption of 11,000 Btu/hp-hr. Calculate the gram per horsepower hour emission rates using the following equations.

$$Engine\ Horsepower = \frac{(Heat\ Input\ Per\ Hour_{Note 1})(10^6)}{(Specific\ Fuel\ Consumption_{Note 2})}$$

$$gm/hp - hr NO_x = \frac{(lb/hr NO_x)(454)}{(Engine\ Horsepower)}$$

$$gm/hp - hr CO = \frac{(lb/hr CO)(454)}{(Engine\ Horsepower)}$$

Note 1 - Heat input per hour (MMBtu/hr) shall be based on the average hourly fuel usage during the test and the higher heating value of the fuel consumed.

Note 2 - Default Specific Fuel Consumption (Btu/hp-hr) shall be as defined above for the particular type of engine tested.

If the combustion turbine horsepower cannot be calculated during the testing, the emissions shall be reported in terms of concentration (ppm by volume, dry basis) corrected to 15 percent O₂. Compliance with the concentrations corrected to 15 percent O₂ as submitted in the air quality permit application and/or set as an allowable in the permit will demonstrate compliance with the gm/hp-hr allowable. Use the following equations to correct the concentrations to 15 percent O₂.

$$ppm NO_{X@15\%O_2} = ppm NO_{X\ corrected} \left(\frac{5.9}{20.9 - O_2\% \text{ corrected}} \right)$$

$$ppm CO_{@15\%O_2} = ppm CO_{\ corrected} \left(\frac{5.9}{20.9 - O_2\% \text{ corrected}} \right)$$

10.1.1.2 Reciprocating Engines Above 500 Horsepower Not Equipped with Fuel Meters. If reciprocating engines above 500 horsepower (site-rated) are not equipped with fuel flow meters during the test, emissions shall be calculated using the site-rated horsepower and default specific fuel consumption factors, based on the higher heating value of the fuel, of 9,400 Btu/hp-hr for 4-cycle engines (controlled and uncontrolled) and 2-cycle lean burn engines and 11,000 Btu/hp-hr for 2-cycle uncontrolled (non-lean burn) engines. The following equations shall be used to calculate emissions.

$$gm/hr NO_x = (ppm NO_{x \text{ corrected}})(1.19 \times 10^{-7})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right) \\ \cdot (Specific \text{ Fuel Consumption}_{\text{Note 2}})(10^{-6})(454)$$

$$lb/hr NO_x = \frac{(gm/hr NO_x)(Engine \text{ Horsepower}_{\text{Note 3}})}{454}$$

$$gm/hr CO = (ppm CO_{\text{corrected}})(7.27 \times 10^{-8})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right) \\ (Specific \text{ Fuel Consumption}_{\text{Note 2}})(10^{-6})(454)$$

$$lb/hr CO = \frac{(gm/hr CO)(Engine \text{ Horsepower}_{\text{Note 3}})}{454}$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and higher heating value of the fuel.

Note 2 - Default Specific Fuel Consumption (Btu/hp-hr) shall be as defined above for the particular type of engine tested.

Note 3 - Site-rated engine horsepower.

10.1.2 Reciprocating Engines Below 500 Horsepower. Reciprocating engines below 500 horsepower may calculate emission rates using the derived horsepower for the operating conditions during the portable analyzer test (either from engine parameter measurements or calculated from compressor operating parameters) and the manufacturer's specific fuel consumption based on the higher heating value of the fuel consumed during the test. Information showing the derivation of the engine operating horsepower and manufacturer's specific fuel consumption shall be provided with the test results. The following equations shall be used to calculate emission rates.

$$gm/hp - hr NO_x = (ppm NO_x \text{ corrected})(1.19 \times 10^{-7})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right) \\ (Specific \text{ Fuel Consumption}_{\text{Note 2}})(10^{-6})(454)$$

$$gm/hp - hr CO = (ppm CO \text{ corrected})(7.27 \times 10^{-8})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right) \\ (Specific \text{ Fuel Consumption}_{\text{Note 2}})(10^{-6})(454)$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and the higher heating value of the fuel.

Note 2 - Use manufacturer's specific fuel consumption based on the higher heating value of the fuel and include manufacturer's data with the test results. If the manufacturer reports the specific fuel consumption based on the lower heating value of the fuel, multiply by 1.11 to obtain the specific fuel consumption based on the higher heating value of the fuel.

Pound per hour emission rates shall be calculated using the gram per horsepower hour emission rates and the engine horsepower derived from engine or compressor operating parameter data. If engine horsepower data is not available, site-rated horsepower shall be used to calculate pound

$$lb/hr NO_x = \frac{(gm/hp - hr NO_x)(Engine \text{ Horsepower}_{\text{Note 1}})}{(454)} \\ lb/hr CO = \frac{(gm/hp - hr CO)(Engine \text{ Horsepower}_{\text{Note 1}})}{(454)}$$

per hour emissions. The following equations shall be used to calculate emission rates.

Note 1 - Use derived operating horsepower and include derivation method/calculations with the test results.

If a derived horsepower is not available or cannot be obtained, use site-rated horsepower.

10.2 Emission Calculations for Heaters/Boilers. For heaters and boilers, pound per million Btu (lb/MMBtu) emission rates shall be calculated based on EPA Reference Method 19. The pound per million Btu emission rates shall be converted to pound per hour emission rates using heat input per hour (MMBtu/hr). The heat input per hour shall be calculated using the average hourly fuel usage rate during test and the higher heating value of the fuel consumed or the permitted maximum heat input per hour for the boiler or heater. If a fuel meter is used to obtain heat input per hour data, the fuel meter shall be maintained and calibrated according to the manufacturer's recommendations. Records of all maintenance and calibrations shall be kept for five years. As an alternative, EPA Reference Methods 1-4 may be used to obtain a stack volumetric flow rate. The following equations shall be used to calculate emission rates.

$$\text{lb/MMBtu } NO_x = (\text{ppm } NO_x \text{ corrected})(1.19 \times 10^{-7})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right)$$

$$\text{lb/MMBtu } CO = (\text{ppm } CO \text{ corrected})(7.27 \times 10^{-8})(F \text{ Factor}_{\text{Note 1}})\left(\frac{20.9}{20.9 - O_2\% \text{ corrected}}\right)$$

$$\text{lb/hr } NO_x = (\text{lb/MMBtu } NO_x)(\text{Heat Input}_{\text{Note 2}})$$

$$\text{lb/hr } CO = (\text{lb/MMBtu } CO)(\text{Heat Input}_{\text{Note 2}})$$

Note 1 - Use 8710 dscf/MMBtu unless calculated based on actual fuel gas composition and the higher heating value of the fuel.

Note 2 - Heat input shall be based on the average hourly fuel usage rate during the test and the higher heating value of the fuel consumed if the boiler/heater is equipped with a fuel meter or the permitted maximum heat input if a fuel meter is not available.

11. REPORTING REQUIREMENTS AND RECORD KEEPING REQUIREMENTS

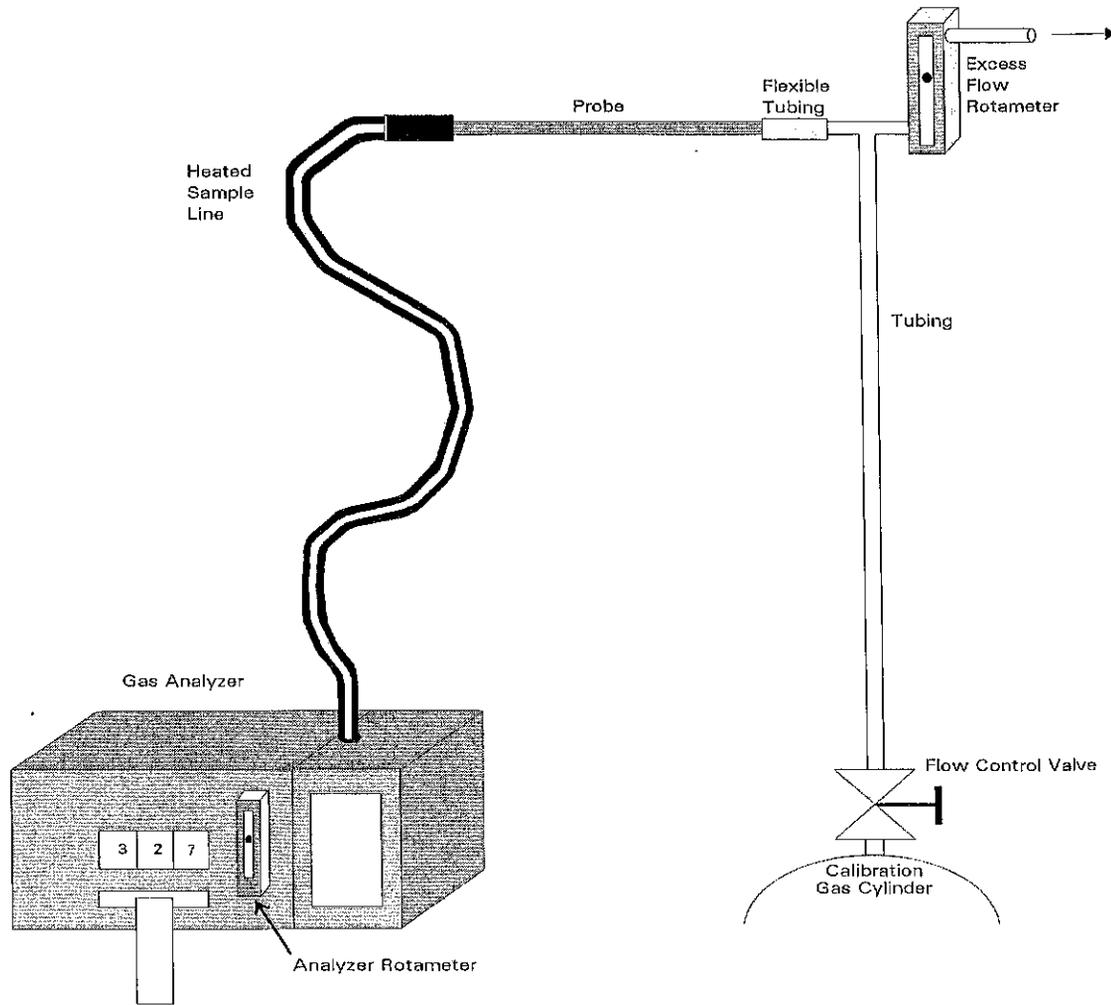
Test reports shall be submitted to the Air Quality Division within thirty (30) days of completing the test unless a specific reporting schedule is set by a condition of a permit. A separate test report shall be submitted for each emission source tested and, at a minimum, the following information shall be included:

- **Form A, Linearity Check Data Sheet**, Submit the linearity check as required by Section 6.2 for the nominal range tested.
- **Form B, Stability Check Data Sheet**, Submit the stability check as required by Section 6.4 for the nominal range tested.
- **Form C, Calibration Error Check Data Sheet**
- **Form D-1, D-2 or D-3**, Submit the appropriate test results form for type of source tested.
- If the manufacturer's specific fuel consumption is used, documentation from the manufacturer shall be submitted.
- If the horsepower is calculated during the test, information showing the derivation of the horsepower shall be included.

For sources subject to Section 30 of the Wyoming Air Quality Standards and Regulations, the submittal must be certified as truthful, accurate and complete by the facility's responsible official.

Records pertaining to the information above and supporting documentation shall be kept for five (5) years and made available upon request by this Division. Additionally, if the source is equipped with a fuel meter, records of all maintenance and calibrations of the fuel meter shall be kept for five (5) years from the date of the last maintenance or calibration.

**FIGURE 1.
CALIBRATION SYSTEM SCHEMATIC**





Form A

Linearity Check Data Sheet

Date: _____

Analyst: _____

Analyzer Manufacturer/Model #: _____

Analyzer Serial #: _____

LINEARITY CHECK

| Pollutant | | Calibration Gas Concentration (Indicate Units) | Analyzer Response ppm NO | Analyzer Response ppm NO ₂ | Analyzer Response ppm CO | Analyzer Response % O ₂ | Absolute Difference (Indicate Units) | Percent of Span | Linearity Valid (Yes or No) |
|-----------------|------|---|-----------------------------|--|-----------------------------|---------------------------------------|---|-----------------|--------------------------------|
| NO | Zero | | | | | | | | |
| | Mid | | | | | | | | |
| | Span | | | | | | | | |
| NO ₂ | Zero | | | | | | | | |
| | Mid | | | | | | | | |
| | Span | | | | | | | | |
| CO | Zero | | | | | | | | |
| | Mid | | | | | | | | |
| | Span | | | | | | | | |
| O ₂ | Zero | | | | | | | | |
| | Mid | | | | | | | | |
| | Span | | | | | | | | |

Form B Stability Check Data Sheet

Date: _____ Analyst: _____

Analyzer Manufacturer/Model #: _____

Analyzer Serial #: _____

Pollutant: NO, NO₂, CO (Circle One) Span Gas Concentration (ppm): _____

| STABILITY CHECK | | | | | |
|------------------------|-------------------|--------------------------|-------------------|--------------------------|-------------------|
| Elapsed Time (Minutes) | Analyzer Response | Elapsed Time (Continued) | Analyzer Response | Elapsed Time (Continued) | Analyzer Response |
| 1 | | 17 | | 33 | |
| 2 | | 18 | | 34 | |
| 3 | | 19 | | 35 | |
| 4 | | 20 | | 36 | |
| 5 | | 21 | | 37 | |
| 6 | | 22 | | 38 | |
| 7 | | 23 | | 39 | |
| 8 | | 24 | | 40 | |
| 9 | | 25 | | 41 | |
| 10 | | 26 | | 42 | |
| 11 | | 27 | | 43 | |
| 12 | | 28 | | 44 | |
| 13 | | 29 | | 45 | |
| 14 | | 30 | | 46 | |
| 15 | | 31 | | 47 | |
| 16 | | 32 | | 48 | |

For 30-minute Stability Check Period:

Maximum Concentration (ppm): _____ Minimum Concentration (ppm): _____

For 15-minute Stability Check Period:

Maximum Concentration (ppm): _____ Minimum Concentration (ppm): _____

Maximum Deviation = 100*(Max. Conc. - Min. Conc.)/Span Gas Conc. = _____ percent

Stability Time (minutes): _____

Form C Calibration Error Check Data Sheet

Company: _____ Facility: _____
 Source Tested: _____ Date: _____
 Analyst: _____ Analyzer Serial #: _____
 Analyzer Manufacturer/Model #: _____

| PRETEST CALIBRATION ERROR CHECK | | | | | | | | |
|---|------|---------------------------------|-----------------------------------|--|--------------------------------------|------------------------|-------------------------------|-------------------------|
| | | A | B | A-B | A-B /SG*100 | | | |
| | | Pump Flow Rate (Indicate Units) | Analyzer Reading (Indicate Units) | Calibration Gas Concentration (Indicate Units) | Absolute Difference (Indicate Units) | Percent of Span Note 1 | Calibration Valid (Yes or No) | Response Time (Minutes) |
| NO | Zero | | | | | | | |
| | Span | | | | | | | |
| NO ₂ | Zero | | | | | | | |
| | Span | | | | | | | |
| CO | Zero | | | | | | | |
| | Span | | | | | | | |
| O ₂ | Zero | | | | | | | |
| | Span | | | | | | | |
| Pretest Calibration NO Cell Temperature (°F): | | | | | | | | |

SG = Span Gas

| POST TEST CALIBRATION ERROR CHECK | | | | | | | | | | |
|---|------|---------------------------------|-----------------------------------|--|---|------------------------|-------------------------------|---|---------------------------|---------------------------|
| | | A | B | A-B | A-B /SG*100 | | | Interference Check | | |
| | | Pump Flow Rate (Indicate Units) | Analyzer Reading (Indicate Units) | Calibration Gas Concentration (Indicate Units) | Absolute Difference (Indicate Units) | Percent of Span Note 1 | Calibration Valid (Yes or No) | Average of Pretest and Post Test Analyzer Readings (Indicate Units) | NO Monitor Response (ppm) | CO Monitor Response (ppm) |
| NO | Zero | | | | | | | | | |
| | Span | | | | | | | | | |
| NO ₂ | Zero | | | | | | | | | |
| | Span | | | | | | | | | |
| CO | Zero | | | | | | | | | |
| | Span | | | | | | | | | |
| O ₂ | Zero | | | | | | | | | |
| | Span | | | | | | | | | |
| Post Test Calibration NO Cell Temperature (°F): | | | | | | | | | | |
| CO Interference Response (I _{CO} , %): | | | | | NO Interference Response (I _{NO} , %): | | | | | |

SG= Span Gas

Note 1: The percent of span calculation is applicable to the NO, NO₂ and CO channels only.

Form D-1 Reciprocating Engine Test Results

Company: _____ Facility: _____
 Source Tested: _____ Date: _____
 Source Manufacturer/Model #: _____
 Site-rated Horsepower: _____ Source Serial #: _____
 Type of Emission Control: _____
 Analyst: _____ Analyzer Serial #: _____
 Analyzer Manufacturer/Model #: _____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

| Suction/ Discharge Pressures (Indicate Units) | Engine RPM | Engine Gas Throughput (Indicate Units) | Engine Fuel Consumption (Indicate Units) | Fuel Heat Content (Btu/cf) | Engine Specific Fuel Consumption (Btu/hp-hr) ¹ | Engine Tested Horsepower |
|--|------------|--|--|----------------------------------|--|-----------------------------|
| | | | | | | |

¹ As reported by the Manufacturer

Test Results

Test Start Time: _____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test: _____

Test End Time: _____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test: _____

| NO _x (NO + NO ₂) | | | | | | | | |
|---|--------------------------------|------------------------------------|----------------------------------|----------------------------------|--------------------|-----------------|-----------------------|--------------------|
| Avg. Tested NO ppm | NO _{corrected} ppm | Avg. Tested NO ₂ ppm | NO ₂ corrected ppm | NO _x corrected ppm | Tested gm/hp-hr | Tested lb/hr | Allowable gm/hp-hr | Allowable lb/hr |
| | | | | | | | | |

| O ₂ | | CO | | | | | |
|---------------------------------|-------------------------------|-----------------------|--------------------------------|--------------------|-----------------|-----------------------|--------------------|
| Avg. Tested O ₂ % | O ₂ corrected % | Avg. Tested CO ppm | CO _{corrected} ppm | Tested gm/hp-hr | Tested lb/hr | Allowable gm/hp-hr | Allowable lb/hr |
| | | | | | | | |

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

_____ **Print Name**

_____ **Signature**

Form D-2 Combustion Turbine Test Results

Company: _____ Facility: _____
 Source Tested: _____ Date: _____
 Source Manufacturer/Model #: _____
 Site-rated Horsepower: _____ Source Serial #: _____
 Type of Emission Control: _____
 Analyst: _____ Analyzer Serial #: _____
 Analyzer Manufacturer/Model #: _____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

| Suction/ Discharge Pressures (Indicate Units) | Turbine T ₅ Temperature (°F) | Turbine RPM | Turbine Gas Throughput (Indicate Units) | Turbine Fuel Consumption (Indicate Units) | Fuel Heat Content (Btu/cf) | Turbine Specific Fuel Consumption (Btu/hp-hr) ¹ | Turbine Tested Horsepower |
|---|---|----------------|--|--|----------------------------------|---|---------------------------------|
| | | | | | | | |

¹ As reported by the Manufacturer

Test Results

Test Start Time: _____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test: _____
 Test End Time: _____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test: _____

| NO _x (NO + NO ₂) | | | | | | | | | | |
|---|--------------------------------|---------------------------------------|----------------------------------|----------------------------------|--------------------|-----------------|---------------------------------------|-----------------------|--------------------|---------------------------------------|
| Avg. Tested NO ppm | NO _{corrected} ppm | Avg. Tested NO ₂ ppm | NO ₂ corrected ppm | NO _x corrected ppm | Tested gm/hp-hr | Tested lb/hr | Tested ppm @ 15% O ₂ | Allowable gm/hp-hr | Allowable lb/hr | Allowable ppm @ 15% O ₂ |
| | | | | | | | | | | |

| O ₂ | | CO | | | | | | | |
|------------------------------------|-------------------------------|--------------------------|--------------------------------|--------------------|-----------------|------------------------------------|-----------------------|--------------------|---------------------------------------|
| Avg. Tested O ₂ % | O ₂ corrected % | Avg. Tested CO ppm | CO _{corrected} ppm | Tested gm/hp-hr | Tested lb/hr | Tested ppm @ 15% O ₂ | Allowable gm/hp-hr | Allowable lb/hr | Allowable ppm @ 15% O ₂ |
| | | | | | | | | | |

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

Print Name

Signature

Form D-3 Heater/Boiler Test Results

Company: _____ Facility: _____

Source Tested: _____ Date: _____

Source Manufacturer/Model #: _____

Design Firing Rate (MMBtu/hr): _____ Source Serial #: _____

Type of Emission Control: _____

Analyst: _____ Analyzer Serial #: _____

Analyzer Manufacturer/Model #: _____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

| Fuel Consumption (cf/hr) | Fuel Heat Content (Btu/cf) | Heater/Boiler Tested Firing Rate (MMBtu/hr) |
|-----------------------------|-------------------------------|--|
| | | |

Test Results

Test Start Time: _____ NO Cell Temperature (°F) after 1/3 (e.g., 7 minutes) of the test: _____

Test End Time: _____ NO Cell Temperature (°F) after 2/3 (e.g., 14 minutes) of the test: _____

| NO _x (NO + NO ₂) | | | | | | | | |
|---|--------------------------------|------------------------------------|----------------------------------|----------------------------------|--------------------|-----------------|-----------------------|--------------------|
| Avg. Tested NO ppm | NO _{corrected} ppm | Avg. Tested NO ₂ ppm | NO _{2 corrected} ppm | NO _{x corrected} ppm | Tested lb/MMBtu | Tested lb/hr | Allowable lb/MMBtu | Allowable lb/hr |
| | | | | | | | | |

| O ₂ | | CO | | | | | |
|---------------------------------|-------------------------------|-----------------------|--------------------------------|--------------------|-----------------|-----------------------|--------------------|
| Avg. Tested O ₂ % | O _{2 corrected} % | Avg. Tested CO ppm | CO _{corrected} ppm | Tested lb/MMBtu | Tested lb/hr | Allowable lb/MMBtu | Allowable lb/hr |
| | | | | | | | |

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

Print Name

Signature

APPENDIX C
Compliance Assurance Monitoring (CAM) Plan



CAM Summary

Western Sugar Cooperative - Lovell

Source 4.0. Pulp Dryer

| | |
|--|--|
| Emission Limit (and origin): | 27.5 lb/hr PM (Construction Permit MD-82) |
| Control Device(s): | Induced draft fan, high efficiency cyclone, and scrubber |
| Pre-control PTE: | 268.7 TPY |
| Post-control PTE: | 73.9 TPY |
| Indicator monitored: | Scrubber water flow rate |
| How measured (what is used, where, any installation specifications): | Magnetic flowmeter, installed in water line to the scrubber |
| QA/QC of monitoring system: | Annual inspection and calibration of the flowmeter |
| Indicator range for excursion: | Flow < 140 gpm |
| Indicator range for exceedance: | Flow < 126 gpm OR Flow > 234 gpm |
| Monitoring frequency: | Continuous, on control panel |
| Monitoring recording: | Daily by operator into log book |
| Action for excursion: | The flowmeter is alarmed if flow goes below 140 gpm. This triggers immediate inspection and valve change if necessary. |
| Minimum data availability per reporting period: | At least 95% of the days the unit is in operation |

COMPLIANCE ASSURANCE MONITORING:
SCRUBBER FOR PM CONTROL—WESTERN SUGAR @ LOVELL, WYOMING

I. Background

A. Emissions Unit:

Description: Micronized coal and natural gas fired beet pulp dryer. Particulate control system of induced fan high efficiency cyclone and scrubber.

Identification: Source 4
Facility: Western Sugar, Lovell WY

B. Applicable Regulation, Emission Limits and Monitoring Requirements:

Regulation No.: WAQSR Sec. 21, Permit MD-82
Regulated Pollutant: Particulate Mater
Emission Limit (Particulate matter): 27.5 lb./hr.
Monitoring requirements: Daily water flow to scrubber.

C. Control Technology:

Induced draft fan, high efficiency cyclone and scrubber.

II. Monitoring Approach

The key elements of the monitoring approach for particulate matter, including the indicators to be monitored, indicator ranges and performance criteria are presented in Table 1

TABLE 1 MONITORING APPROACH

| | | Indicator |
|------------------|---------------------------------------|---|
| I. | Indicator | Scrubber water flow |
| | Measurement Approach | Water flow -- Four inch Yoka Gawa magnetic flow meter |
| II. | Indicator Range | Flow was measured during the stack test in 11/2000. Flow was 180 gpm with particulate results of 9.59 lbs./hr. or 35% of the limit of 27.5 lbs./hr. The permit requires flow to be +/- 30 % of the rate tested. The flow meter has an alarm if the flow goes below 140 gpm (30 % lower would be 126). Flow does not go 30 % above. The alarm triggers inspection and a valve change if necessary. |
| III. | Performance Criteria | The magnetic flow meter is located in the water line to the scrubber. |
| | A. Data Representativeness | |
| | B. Verification of Operational Status | Flow meter shows the flow as does the control panel in the pulp dryer control room. |
| | C. QA/QC Practices | Flow meter is inspected annually |
| | D. Monitoring Frequency | Flow is measured continuously. |
| | Data Collection Procedure | The flow is displayed continuously on the control panel. The dryer operator records the flow daily in a log book. |
| Averaging Period | Once per day | |

JUSTIFICATION

I. Background

The pollutant is particulate matter from the drying of beet pulp in a micronized coal and natural gas fired pulp dryer. Control is provided by a system with induced draft fan, high efficiency cyclone and scrubber. The scrubber exhausts through a stack in the roof. The pulp dryer operates during the beet processing campaign from about mid-Sept. until Feb., although it is shut down when wet pulp demand from cattle feeders is high. Dryer operation is limited in the permit to 5374 hours. The monitoring approach is required by permit conditions.

II. Rationale for Selection of Performance Indicators

The following parameter will be monitored:

Scrubber water flow (total)

As required by the permit, a stack test was performed and the flow must be within +/- 30 % of the flow during the test. Flow during the test was 180 gpm.

III. Rationale for Selection of Indicator Ranges

Stack testing to determine appropriate water flow was done in November 2000. EPA Methods 1-5 were followed. A Stack Test Report was submitted to WDEQ. At 180 gpm flow, the particulate emissions were 9.59lbs/hr, well below the limit of 27.5 lbs/hr. (35 % of the limit).

04-28-2008 320103

07-01-2002 310103

APPENDIX D

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

2019

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 SO₂ per hour, pounds of SO₂ per million British thermal units of fuel input, kilograms of VOC per liter of applied coating solids, or parts per million by volume of SO₂) or as the relationship of uncontrolled to controlled emissions (e.g., percentage capture and destruction efficiency of VOC or percentage reduction of SO₂). 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_x) 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)(I)(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)(I)(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.

