Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

October 17, 2012

James M. Parker
PPL Montana, LLC
303 N Broadway, Suite 400
Billings, MT 59101

RE: Proposed Title V Operating Permit #OP0513-08

Dear Mr. Parker:

The Department of Environmental Quality has prepared the enclosed Proposed Operating Permit #OP0513-08, for PPL Montana, LLC, Colstrip Steam Electric Station, located in Section 34, Township 2 North, Range 41 East, in Rosebud County, Montana. Please review the cover page of the attached permit for information pertaining to the action taking place on Permit #OP0513-08.

If you have any questions, please contact Skye Hatten, the permit writer, at (406) 444-5287 or by email at shatten@mt.gov.

Sincerely,

Charles Homer Manager, Air Permitting,
Compliance and Registration Air Resources
Management Bureau
(406) 444-5279

Skye Hatten, P.E.
Environmental Engineer
Air Resources Management Bureau
(406) 444-5287

CH: SH
Enclosure
Cc: DJ Law, US EPA Region VIII 8P-AR (via email)
Stephen J. Christian, PPL Montana, LLC, Alternative Responsible Official (via email)
Neil Dennehy, PPL Montana, LLC, Facility Contact Person (via email)
Myron Shield, Apsaalooke (Crow) Environmental Department (via USPS)
Jay Littlewolf, Tse' tsehestahese (Northern Cheyenne) EPD (via email)
Lori Bocchino, Operating Permit Program Manager, Wyoming DEQ (via email)
Tom Bachman, ND Department of Health, Division of Air Quality (via email)
Brian Gustafson, Administrator, SD DENR (via email)

Jenny Harbine, Earth Justice (via email)
Stan Frasier, Helena Hunters & Anglers Association (via email)
Harold and Jan Hoem, Montana Elders for a Livable Tomorrow (via email)
Multiple Interested Parties that Submitted Similar Electronic Comments (via email)

State of Montana
Department of Environmental Quality
Helena, Montana 59620

# AIR QUALITY OPERATING PERMIT NUMBER OP0513-08

Renewal Application Received: March 25, 2010
Application Deemed Administratively Complete: March 25, 2010
Application Deemed Technically Complete: March 25, 2010
AFS Number: 030-087-0008A

Draft Issue Date #OP0513-07: May 17, 2011
Draft Issue Date #OP0513-08: August 10, 2012
Proposed Issue Date: October 17, 2012
End of EPA 45-day Review: December 3, 2012
Date of Decision:
Effective Date:
Expiration Date:

In accordance with the Montana Code Annotated (MCA) Sections 75-2-217 and 218, and the Administrative Rules of Montana (ARM) Title 17, Chapter 8, Subchapter 12, Operating Permit Program,

**PPL Montana, LLC – Colstrip Steam Electric Station**
**Section 34, Township 2 North, Range 41 East, in Rosebud County, Montana**
**580 Willow Ave., P.O. Box 38**
**Colstrip, MT 59323**

hereinafter referred to as "PPLM", is authorized to operate a stationary source of air contaminants consisting of the emission units described in this permit. Until this permit expires or is modified or revoked, PPLM is allowed to discharge air pollutants in accordance with the conditions of this permit. All conditions in this permit are federally and state enforceable unless otherwise specified. Requirements which are state-only enforceable are identified as such in the permit. A copy of this permit must be kept on site at the above named facility.

**Permit Issuance and Appeal Process**: In accordance with ARM 17.8.1232, the Department of Environmental Quality (Department) provided at least 30 days for public comment on the draft permit. With the issuance of Draft Operating Permit #OP0513-08, the Department provided a 30-day public comment period from August 10, 2012, to September 10, 2012. Following receipt of a request to extend the originally allotted 30-day comment period, the Department granted the request and approved a 14-day extension. The extension allowed for comments to be received until September 24, 2012. All comments received by the Department regarding this permit have been summarized in the attached technical review document. This proposed permit will be sent to the United States Environmental Protection Agency (EPA). The EPA is allowed a 45-day review period on the proposed permit. After the EPA comment period has expired, the Department intends to issue a decision on the permit. In accordance with Section 75-2-218, MCA, the Department's decision regarding issuance of an operating permit is not effective until 30 days have elapsed from the date of the decision. The decision may be appealed to the Board of Environmental Review (Board) by filing a request for a hearing within 30 days after the date of decision. The filing of a request for hearing does not stay the Department's decision, unless the Board orders a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-218(6)(b), MCA. If no stay is ordered, the Department's decision on the application is final 30 days after the decision is made. For more information please contact the Department at (406) 444-3490.

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Terms not otherwise defined in this permit or in the Definitions and Abbreviations Appendix of this permit have the meaning assigned to them in the referenced rules or regulations.

## SECTION I. GENERAL INFORMATION

The following general information is provided pursuant to ARM 17.8.1210(1).

**Company Name**: PPL Montana, LLC

**Mailing Address**: 303 N Broadway, Suite 400

**City**: Billings **State**: MT **Zip**: 59101

**Plant Name**: Colstrip Steam Electric Station

**Plant Location**: Section 2, Township 2 North, Range 41 East, Rosebud County, Montana
Willow Avenue and Warehouse Road, Colstrip, Montana

**Responsible Official**: James M. Parker **Phone**: (406) 237-6932
**Alternative Responsible Official**: Stephen J. Christian **Phone**: (406) 748-5019

**Facility Contact Person**: Neil Dennehy **Phone**: (406) 748-5066

**Primary SIC Code**: 4911, Electric Services (NAICS Code: 221112)

**Nature of Business**: Coal-fired thermal power generation

**Description of Process**: Four tangential coal-fired boilers and associated equipment for generation of electricity.

## SECTION II. SUMMARY OF EMISSION UNITS

The emission units regulated by this permit are the following (ARM 17.8.1211):

| Emission Units ID | Description | Pollution Control Device/Practice |
|---|---|---|
| EU001 | Unit #1 – Tangential Coal Fired Boiler | Wet Venturi Scrubber, Low NOx burner firing system and digital controls (Alstom LNCFS II ® System) |
| EU002 | Unit #2 – Tangential Coal Fired Boiler | Wet Venturi Scrubber, Low NOx burner firing system and digital controls (Alstom LNCFS II ® System) |
| EU003 | Unit #3 – Tangential Coal Fired Boiler | Wet Venturi Scrubber, advanced low NOx firing and digital controls for NOx control (Alstom LNCFS III® System) |
| EU004 | Unit #4 – Tangential Coal Fired Boiler | Wet Venturi Scrubber, advanced low NOx firing and digital controls for NOx control (Alstom LNCFS III® System) |
| EU005 | Auxiliary Propane Boiler (1 & 2) | None |
| EU006 | Building Heating Boiler (3 & 4) | None |
| EU007 | Coal Handling System (1 & 2) | Enclosed conveyors<br>Dust suppressant<br>Enclosed downspout with elevation doors<br>Dustless transfer chutes (certain locations) |
| EU008 | Coal Handling System – (silos, distribution bin, surge pile tunnel, crushing and sampling house, and vacuum cleaning system) (3 & 4) | Enclosed conveyors<br>Dust suppressant<br>Enclosed downspout with elevation doors<br>Dustless transfer chutes (certain locations) |
| EU009 | Coal Piles (Wind Erosion) | Sealant on some storage piles, Dust suppression system, Enclosures, Wind fence (one coal pile), Water application through sprays or water trucks |
| EU010 | Emergency Diesel Generators | None |
| EU012 | Lime Handling System | Pneumatic Unloading |
| EU013 | Plant Roads | Dust suppressant is applied annually and water is applied as needed |
| EU014 | Process Ponds | Material is wet |
| EU015 | Underground Gasoline Tank | Permanent submerged fill pipe |
| EU017 | Tangential Coal Fired Units 1-4 Mercury Emissions | Mercury oxidizer/sorbent |
| EU018 | Mercury Oxidizer/Sorbent Handling Systems (Units 1-4) | Bin Vent Filter |

## SECTION III. PERMIT CONDITIONS

The following requirements and conditions are applicable to the facility or to specific emission units located at the facility (ARM 17.8.1211, 1212, and 1213).

### A. Facility-Wide

| Conditions | Rule Citation | Rule Description | Pollutant/Parameter | Limit |
|---|---|---|---|---|
| A.1 | ARM 17.8.105 | Testing Requirements | Testing Requirements | ------- |
| A.2 | ARM 17.8.304(1) | Visible Air Contaminants | Opacity | 40% |
| A.3 | ARM 17.8.304(2) | Visible Air Contaminants | Opacity | 20% |
| A.4 | ARM 17.8.308(1) | Particulate Matter, Airborne | Fugitive Opacity | 20% |
| A.5 | ARM 17.8.308(2) | Particulate Matter, Airborne | Reasonable Precautions | ------- |
| A.6 | ARM 17.8.308 | Particulate Matter, Airborne | Reasonable Precaution, Construction | 20% |
| A.7 | ARM 17.8.309 | Particulate Matter, Fuel Burning Equipment | Particulate Matter | $E= 0.882 * H^{-0.1664}$ Or $E= 1.026 * H^{-0.233}$ |
| A.8 | ARM 17.8.310 | Particulate Matter, Industrial Processes | Particulate Matter | $E= 4.10 * P^{0.67}$ or $E= 55 * P^{0.11} - 40$ |
| A.9 | ARM 17.8.322(4) | Sulfur Oxide Emissions, Sulfur in Fuel | Sulfur in Fuel (liquid or solid fuels) | 1 lb/MMBtu fired |
| A.10 | ARM 17.8.322(5) | Sulfur Oxide Emissions, Sulfur in Fuel | Sulfur in Fuel (gaseous) | 50 gr/100 CF |
| A.11 | ARM 17.8.324(3) | Hydrocarbon Emissions, Petroleum Products | Gasoline Storage Tanks | ------- |
| A.12 | ARM 17.8.324 | Hydrocarbon Emissions, Petroleum Products | 65,000 Gallon Capacity | ------- |
| A.13 | ARM 17.8.324 | Hydrocarbon Emissions, Petroleum Products | Oil-effluent Water Separator | ------- |
| A.14 | ARM 17.8.342 | NESHAPs General Provisions | SSM Plans | Submittal |
| A.15 | Board of Health and Environmental Sciences (BHES) Findings of Fact and Conclusions of Law signed on November 21, 1975; this requirement is "State Only" | Major Facility Siting Act (MFSA) Requirements | Coal Utilized within Units #3 and #4 | As specified |
| A.16 | CV-07-40-BLG-RFC-CSO | Consent Decree | Various | As specified |
| A.17 | ARM 17.8.1211(1)(c) and 40 CFR Part 98 | Greenhouse Gas Reporting | Reporting | ------- |
| A.18 | ARM 17.8.1212 | Reporting Requirements | Prompt Deviation Reporting | ------- |
| A.19 | ARM 17.8.1212 | Reporting Requirements | Compliance Monitoring | ------- |
| A.20 | ARM 17.8.1207 | Reporting Requirements | Annual Certification | ------- |

### Conditions

A.1. Pursuant to ARM 17.8.105, any person or persons responsible for the emissions of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct test, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

Compliance demonstration frequencies that list "as required by the Department" refer to ARM 17.8.105. In addition, for such sources, compliance with limits and conditions listing "as required by the Department" as the frequency, is verified annually using emission factors and engineering calculations by the Department's compliance inspectors during the annual emission inventory review; in the case of Method 9 tests, compliance is monitored during the regular inspection by the compliance inspector.

A.2. Pursuant to ARM 17.8.304(1), PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes, unless otherwise specified by rule or in this permit.

A.3. Pursuant to ARM 17.8.304(2), PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes, unless otherwise specified by rule or in this permit.

A.4. Pursuant to ARM 17.8.308(1), PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of particulate matter (PM) are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes, unless otherwise specified by rule or in this permit.

A.5. Pursuant to ARM 17.8.308(2), PPLM shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter, unless otherwise specified by rule or in this permit.

A.6. Pursuant to ARM 17.8.308, PPLM shall not operate a construction site or demolition project unless reasonable precautions are taken to control emissions of airborne PM. Such emissions of airborne PM from any stationary source shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes, unless otherwise specified by rule or in this permit.

A.7. Pursuant to ARM 17.8.309, unless otherwise specified by rule or in this permit, PPLM shall not cause or authorize PM caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of the maximum allowable emissions of PM for existing fuel burning equipment and new fuel burning equipment calculated using the following equations:

For existing fuel burning equipment (installed before November 23, 1968):
$E = 0.882 * H^{-0.1664}$

For new fuel burning equipment (installed on or after November 23, 1968):
$E = 1.026 * H^{-0.233}$

Where H is the heat input capacity in million British thermal units (MMBtu) per hour and E is the maximum allowable particulate emissions rate in pounds per MMBtu.

A.8. Pursuant to ARM 17.8.310, unless otherwise specified by rule or in this permit, PPLM shall not cause or authorize PM to be discharged from any operation, process, or activity into the outdoor atmosphere in excess of the maximum hourly allowable emissions of PM calculated using the following equations:

For process weight rates up to 30 tons per hour: $E = 4.10 * P^{0.67}$
For process weight rates in excess of 30 tons per hour: $E = 55.0 * P^{0.11} – 40$

Where E = rate of emissions in pounds per hour and p = process weight rate in tons per hour.

A.9. Pursuant to ARM 17.8.322(4), PPLM shall not burn liquid or solid fuels containing sulfur in excess of 1 pound per MMBtu fired, unless otherwise specified by rule or in this permit.

A.10. Pursuant to ARM 17.8.322(5), PPLM shall not burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions, unless otherwise specified by rule or in this permit.

A.11. Pursuant to ARM 17.8.324(3), PPLM shall not load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device or is a pressure tank as described in ARM 17.8.324(1), unless otherwise specified by rule or in this permit.

A.12. Pursuant to ARM 17.8.324, unless otherwise specified by rule or in this permit, PPLM shall not place, store or hold in any stationary tank, reservoir or other container of more than 65,000 gallon capacity any crude oil, gasoline or petroleum distillate having a vapor pressure of 2.5 pounds per square inch absolute or greater under actual storage conditions, unless such tank, reservoir or other container is a pressure tank maintaining working pressure sufficient at all times to prevent hydrocarbon vapor or gas loss to the atmosphere, or is designed and equipped with a vapor loss control device, properly installed, in good working order and in operation.

A.13. Pursuant to ARM 17.8.324, unless otherwise specified by rule or in this permit, PPLM shall not use any compartment of any single or multiple-compartment oil-effluent water separator, which compartment receives effluent water containing 200 gallons a day or more of any petroleum product from any equipment processing, refining, treating, storing or handling kerosene or other petroleum product of equal or greater volatility than kerosene, unless such compartment is equipped with a vapor loss control device, constructed so as to prevent emission of hydrocarbon vapors to the atmosphere, properly installed, in good working order and in operation.

A.14. Pursuant to ARM 17.8.342 and 40 CFR 63.6, PPLM shall submit to the Department a copy of any startup, shutdown, and malfunction (SSM) plan required under 40 CFR 63.6(e)(3) within 30 days of the effective date of this operating permit (if not previously submitted), within 30 days of the compliance date of any new National Emission Standard for Hazardous Air Pollutants (NESHAPs) or Maximum Achievable Control Technology (MACT) standard, and within 30 days of the revision of any such SSM plan, when applicable. The Department requests submittal of such plans in electronic form, when possible.

A.15. In accordance with the conditional certification of Colstrip Units #3 and #4 made pursuant to Section 70-810 (L), Revised Code of Montana (R.C.M) 1947 of the Major Facility Siting Act (MFSA), PPLM shall utilize only coal from the Rosebud seam within Units #3 and #4 (Board of Health and Environmental Sciences (BHES) Findings of Fact and Conclusions of Law signed on November 21, 1975; this requirement is “State-Only”).

A.16. PPLM shall comply with the following applicable terms of US EPA Consent Decree CV-07-40-BLG-RFC-CSO (entered 5/14/07), and its Amendments, for the life of the Consent Decree (ARM 17.8.1211):

a. Section IV: Oxides of Nitrogen ($NO_x$) Emission Reductions and Controls;

b. Section V: Prohibition on Netting Credits or Offsets from Required Controls;

c. Section VI: Relationship to PSD Permit;

d. Section X: Periodic Reporting;

e. Section XII: Force Majeure (excluding the stipulated penalty components);

f. Section XIV: Permits; and

g. Section XV: Information Collection and Retention.

A.17. Pursuant to ARM 17.8.1211(1)(c) and 40 CFR Part 98, PPLM shall comply with requirements of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting, as applicable (ARM 17.8.1211(1)(c), NOT an applicable requirement under Title V).

A.18. PPLM shall promptly report deviations from permit requirements including those attributable to upset conditions, as upset is defined in the permit. To be considered prompt, deviations shall be reported to the Department using the schedule and content as described in Section V.E (unless otherwise specified in an applicable requirement) (ARM 17.8.1212).

A.19. On or before February 15 and August 15 of each year, PPLM shall submit to the Department the compliance monitoring reports required by Section V.D. These reports must contain all information required by Section V.D, as well as the information required by each individual emissions unit. For the reports due by February 15 of each year, PPLM may submit a single report, provided that it contains all the information required by Section V.B & V.D. Per ARM 17.8.1207,

> *any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12 (including semiannual monitoring reports), shall contain certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that,* ***"based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete."***

A.20. By February 15 of each year, PPLM shall submit to the Department the compliance certification report required by Section V.B. The annual certification report required by Section V.B must include a statement of compliance based on the information available that identifies any observed, documented or otherwise known instance of noncompliance for each applicable requirement. Per ARM 17.8.1207,

> *any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12 (including annual certifications), shall contain certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that,* ***"based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete."***

## B. EU001 and EU002 – Tangential Coal Fired Units 1 & 2

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| B.1, B.4, B.10, B.11, B.19, B.20, B.23, B.24, B.25, B.27, B.28 | Opacity | 20%/27% | COMS | Ongoing | Quarterly |
| | | | Method 9 | As required by the Department and Section III.A.1 | Semiannually |
| B.2, B.12, B.19, B.23, B.24, B.27 B.28 | PM | 0.1 lb/MMBtu | Method 5 or 5B | Annual | |
| B.3, B.4, B.5, B.14, B.15, B.16, B.19, B.21, B.23, B.24, B.27, B.28 | $SO_2$ | 1.2 lb/MMBtu | Method 6 or 6C | Annual | Semiannually |
| | | | CEMS | Ongoing | Quarterly |
| B.3,B.4, B.5, B.7, B.13, B.15, B.16, B.19, B.21, B.27, B.28 | $NO_x$ | 0.7 lb/MMBtu | Method 7 or 7E | Annual | Semiannually |
| | | | CEMS | Ongoing | Quarterly |
| | | 0.40 lb/MMBtu (annual average) | 40 CFR Parts 72-78 and Appendix H | As required by Appendix H | |
| B.5, B.6, B.7, B.15, B.16, B.21, B.23, B.26 -B.28 | Acid Rain Provisions | 40 CFR Parts 72-78 and Appendix H | 40 CFR Parts 72-78 and Appendix H | As required by Appendix H | |
| B.8, B.17, B.22, B.23, B.27, B.28 | PM CAM Plan | ARM 17.8.1506 | Provisions from CAM Plan, Appendix I | Ongoing | |
| B.9, B.18, B.23, B.27, B.28 | Scrubbers | Maintain & Operate | Log | Daily | |

### Conditions

B.1. PPLM shall not cause or authorize to be discharged into the atmosphere from Units 1 & 2 any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes except for one 6-minute period per hour of not greater than 27% opacity (ARM 17.8.340 and 40 CFR Part 60, Subpart D).

B.2. PPLM shall not cause to be discharged into the atmosphere PM in excess of 0.10 lb/MMBtu, as averaged over 3 hours (minimum) of reference method testing (ARM 17.8.340, and 40 CFR Part 60, Subpart D).

B.3. Any gaseous emissions discharged into the atmosphere shall not exceed 1.2 lb/MMBtu Sulfur Dioxide ($SO_2$) and 0.7 lb/MMBtu $NO_x$ (ARM 17.8.340 and 40 CFR Part 60, Subpart D).

B.4. PPLM shall install, operate, calibrate and maintain continuous emission monitoring systems (CEMS) for the following:

a. A CEMS for the measurement of $SO_2$ shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

b. A CEMS for the measurement of $NO_x$ shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

c. A CEMS for the measurement of Carbon Dioxide ($CO_2$) shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

d. A CEMS for the measurement of opacity shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45); and

e. Continuous monitoring for stack gas temperature, stack gas moisture (where necessary), megawatt production, and Btu per hour shall be performed on each unit (40 CFR 52.21).

B.5. PPLM shall comply with all requirements in the Acid Rain Appendix H of this permit including the operation and maintenance of the $SO_2$ and $NO_x$ CEMS (ARM 17.8.1210(3)).

B.6. Emissions shall not be permitted in excess of any allowances that PPLM lawfully holds under Title IV of the FCAA or the regulations promulgated thereunder (ARM 17.8.1210(3)(a)).

a. A permit revision is not required for increases in emissions authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement (ARM 17.8.1210(3)(b)).

b. PPLM may not use allowances as a defense to noncompliance with any other applicable requirement (ARM 17.8.1210(3)(c)).

c. Any allowances shall be accounted for according to the procedures established in regulations promulgated under Title IV of the FCAA (ARM 17.8.1210(3)(d)).

B.7. Pursuant to 40 CFR 76.7, PPLM shall not discharge or allow to be discharged, emissions of $NO_x$ to the atmosphere in excess of 0.40 lb/MMBtu on an annual average basis (40 CFR 76.7(a)).

B.8. PPLM shall provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations of the Tangential Coal-Fired Boilers, Units 1 & 2 for PM (ARM 17.8.1504).

B.9. PPLM shall maintain and operate the scrubbers to control emissions on Units 1 & 2 (ARM 17.8.749).

**Compliance Demonstration**

B.10. PPLM shall perform a Method 9 test on the boilers as required by the Department and Section III.A.1 while the boilers are in operation to monitor compliance with the opacity limitation in Section III.B.1. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual or another method approved by the Department (ARM 17.8.749 and ARM 17.8.106).

B.11. PPLM shall operate and maintain the continuous opacity monitor (COM) to monitor compliance with the opacity limitation in Section III.B.1. The operation and maintenance shall be performed in accordance with the Opacity CEMS Appendix E of this permit (ARM 17.8.749).

B.12. PPLM shall perform a Method 5 or 5B PM test annually during periods the equipment is in operation to monitor compliance with the PM limit in Section III.B.2. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.749 and ARM 17.8.106).

B.13. PPLM shall perform a Method 7 or 7E test annually during periods of boiler operation to monitor compliance with the $NO_x$ limit in Section III.B.3. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.749 and ARM 17.8.106).

B.14. PPLM shall perform a Method 6 or 6C test annually during periods of boiler operation to monitor compliance with the $SO_2$ limit in Section III.B.3. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.749 and ARM 17.8.106).

B.15. PPLM shall monitor compliance with emission limits in Section III.B.3 pursuant to the requirements in 40 CFR Part 75, 40 CFR Part 76, $SO_2$ CEMS, Appendix F, and the $NO_x$ CEMS Appendix G of this permit (ARM 17.8.1213).

B.16. PPLM shall monitor compliance with the Acid Rain Provisions according to 40 CFR Parts 72-78 and Appendix H of this permit, including monitoring as described in the $SO_2$ CEMS Appendix F and $NO_x$ CEMS Appendix G of this permit (ARM 40 CFR Parts 72-78).

B.17. PPLM shall monitor compliance by following the Compliance Assurance Monitoring (CAM) Plan (Appendix I). The CAM Plan, written by Colstrip in accordance with ARM 17.8.1504, is included in Appendix I of the permit (ARM 17.8.1503 and ARM 17.8.1213).

B.18. PPLM shall maintain records of scrubber maintenance and operation to monitor compliance with Section III.B.9 (ARM 17.8.1213).

**Recordkeeping**

B.19. All source testing recordkeeping shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. Method 9 source test reports for opacity need not be submitted unless requested by the Department (ARM 17.8.106).

B.20. Records shall be prepared and data kept in accordance with the Opacity CEMS Appendix E of this permit (ARM 17.8.1212).

B.21. Records shall be prepared and data kept in accordance with 40 CFR Part 75 and Appendix H of this permit, the $SO_2$ CEMS Appendix F, and the $NO_x$ CEMS Appendix G of this permit (ARM 17.8.1212 and 40 CFR Parts 72-78).

B.22. Records shall be prepared and data kept in accordance with 40 CFR Part 64 and the CAM Plan Appendix I of this permit (ARM 17.8.1212 and ARM 17.8.1513).

B.23. PPLM shall maintain as a permanent business record under its control for at least 5 years, all records required for compliance monitoring. Furthermore, the records must be available at the plant site for inspection by the Department and EPA, and must be submitted to the Department upon request (ARM 17.8.1212).

**Reporting**

B.24. The Method 5, Method 5B, Method 6, Method 6C, Method 7, and Method 7E test reports as specified in Section III.B.12, 13, and 14 shall be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

B.25. Reporting for the opacity CEMS shall be performed according to Appendix E of this permit (ARM 17.8.1212).

B.26. Reporting for the Acid Rain Provisions shall be performed according to 40 CFR Parts 72-78 and Appendix H of this permit (40 CFR Parts 72-78).

B.27. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

B.28. The semiannual monitoring report shall provide a summary of results of any Method 9, Method 5 or 5B, Method 6 or 6C, and Method 7 or 7E tests conducted during the period; the actual test reports for Method 9 need only be submitted to the Department by request, as specified by Section III.B.19 (ARM 17.8.1212).

## C. EU003 and EU004 – Tangential Coal Fired Units 3 & 4

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| C.1, C.21, C.24, C.25, C.36, C.41, C.42, C.45, C.47 – C.50 | Opacity | 20%/27% | COMS | Ongoing | Quarterly |
| | | | Method 9 | As required by the Department and Section III.A.1 | Semiannually |
| C.2, C.3, C.4, C.26, C.27, C.43, C.44, C.49 – C.51 | PM | 0.05 lb/MMBtu | Method 5 or Method 5B | Annual | |
| | | 379 lb/hr | | | |
| | | 0.10 lb/MMBtu | | | |
| C.4 – C.8, C.21, C.28, C.29, C.37, C.44, C.45, C.47, C.49 – C.51 | $SO_2$ | 1.2 lb/MMBtu | Method 6 or 6C | Annual | |
| | | 0.18 lb/MMBtu (calendar day average) | CEMS | Ongoing | Quarterly |
| | | 761 lb/hr (30 day rolling average) | | | |
| | | 1363 lb/hr (calendar day average) | | | |
| | | 4140 lb/hr (3-hr rolling average) | | | |
| C.9, C.30, C.39, C.44, C.49 – C.51 | % sulfur | 1% sulfur content of coal | Weekly average of composite coal samples in accordance with Method 19 | Ongoing | Semiannually |
| C.4, C.10, C.11, C.12, C.21, C.31, C.32, C.33, C.37, C.40, C.44, C.45, C.47, C.49-C.51 | $NO_x$ | 0.7 lb/MMBtu | Method 7 or 7E | Annual | |
| | | | CEMS | Ongoing | Quarterly |
| | | 5301 lb/hr | | | |
| | | 0.40 lb/MMBtu (annual average) | 40 CFR Parts 72-78 and Appendix H | As required by Appendix H | |
| | | $\frac{E=0.2x+0.3y=0.7z}{x + y + z}$ | Emissions limit calculations | When burning fuel other than coal | Semiannually |
| C.13, C.32, C.37, C.45, C.47, C.49-C.51 | $NO_2$ | 0.7 lb/MMBtu (calendar day average) | CEMS | Ongoing | Quarterly |
| C.14, C.17, C.32, C.37, C.45, C.47, C.49- C.51 | $NO_x$ (30-day rolling average) | 0.18 lb/MMBtu if unit operating > 400 MW | CEMS | Ongoing | |
| | | 0.30 lb/MMBtu if unit operating =<400 MW | | | |
| | | 1,363 lb/hr | | | |
| | $NO_x$ (24-hour average) | 0.25 lb/MMBtu if unit operating > 400 MW | | | |
| | | 0.30 lb/MMBtu if unit operating =<400 MW | | | |
| | | 1,893 lb/hr | | | |
| C.15, C.16, C.34, C.41, C.49 – C.51 | $NO_x$ Control | Operate digital controls, low-$NO_x$ burners, overfire air | Documentation | Ongoing | Semiannually |
| C.18, C.34, C.41, C.49 – C.51 | $NO_x$ Control | Classification, BART, visibility, and Baseline Visibility | As required by EPA | As required by EPA | As required by EPA |

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| C.19, C.20, C.35, C.45, C.46, C.49–C.51 | Acid Rain Provisions | 40 CFR Parts 72-78 and Appendix H | 40 CFR Parts 72-78 and Appendix H | As required by Appendix H | Quarterly |
| C.21, C.37, C.42, C.45, C.47, C.49 – C.51 | $SO_2$ | CEMS | Install, Operate and Maintain | Ongoing | Quarterly |
| | $NO_x$ | | | | |
| | $CO_2$ | | | | |
| | Opacity | | | | |
| C.22, C.36, C.49 – C.51 | Heat Input | $6.63 \times 10^7$ MMBtu/yr | Coal analysis and tonnage | Monthly | |
| | | | log | Monthly | |
| C.21, C.37, C.45, C.47, C.49 – C.51 | Stack Parameters | Measure stack parameters | Monitor stack gas temperature, moisture, Mwatt production and Btu/hr | Ongoing | |
| C.23, C.38, C.48 – C.51 | PM CAM Plan | ARM 17.8.1506 | Provisions from CAM Plan, Appendix I | Ongoing | |

## Conditions

C.1. PPLM shall not cause or authorize to be discharged into the atmosphere from Units 3 & 4 any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes except for one 6-minute period per hour of not greater than 27% opacity (ARM 17.8.340 and 40 CFR Part 60, Subpart D).

C.2. PPLM shall not cause to be discharged into the atmosphere PM in excess of 0.05 lb/MMBtu, as averaged over 3 hours (minimum) of reference method testing (40 CFR 52.21).

C.3. PPLM shall not cause to be discharged into the atmosphere PM in excess of 379 lb/hr (ARM 17.8.749).

C.4. Any gaseous emissions discharged into the atmosphere from burning coal shall not exceed 0.10 lb/MMBtu PM, 1.2 lb/MMBtu $SO_2$ and 0.7 lb/MMBtu $NO_x$ (ARM 17.8.340 and 40 CFR Part 60, Subpart D).

C.5. PPLM shall not cause to be discharged into the atmosphere $SO_2$ at a rate of 0.18 lb/MMBtu heat input, averaged over any calendar day, not to be exceeded more than once during any calendar month (40 CFR 52.21).

C.6. PPLM shall not cause to be discharged into the atmosphere $SO_2$ at a rate of 761 lb/hr, averaged over any rolling 30-day period, calculated each day at midnight, using hourly data calculated each hour on the hour (40 CFR 52.21).

C.7. PPLM shall not cause to be discharged into the atmosphere $SO_2$ at a rate of 1363 lb/hr, averaged over any calendar day, not to be exceeded more than once during any calendar month (40 CFR 52.21).

C.8. PPLM shall be limited to a maximum of 4140 lb/hr of $SO_2$ averaged over a 3-hr rolling period from both Units 3 &d 4 stacks combined (ARM 17.8.749).

C.9. PPLM shall be limited to a sulfur content in coal of 1% (ARM 17.8.749 and BHES Findings of Fact and Conclusions of Law signed on November 21, 1975; this requirement is “State Only”).

PPLM has developed a contingency plan for blending coal to achieve the 1.0% (sulfur as received basis) limit. Implementation of the plan will not be required unless the coal exceeds the "worst case coal" design criteria, which is a heat content of less than 8162 Btu/lb, and ash content of greater than 12.5% and a sulfur content greater than 1%, all on an as-received basis.

C.10. Pursuant to 40 CFR 76.7, PPLM shall not discharge or allow discharged emissions of $NO_x$ to the atmosphere in excess of 0.40 lb/MMBtu on an annual average basis (40 CFR 76.7(a)).

C.11. PPLM shall be limited to 5301 lb/hr of $NO_x$ from each of the tangential coal fired boilers, Units 3 & 4 (ARM 17.8.749).

C.12. Any gaseous $NO_x$ emissions discharged into the atmosphere when burning fuel other than coal shall not exceed (ARM 17.8.749):

$$E = \frac{0.2x + 0.3y + 0.7z}{x + y + z}$$

where: E = allowable emissions in lb/MMBtu heat input
x = fraction of total heat input derived from gaseous fuels
y = fraction of total heat input derived from liquid fuels
z = fraction of total heat input derived from solid fuels.

C.13. PPLM shall not cause to be discharged into the atmosphere $NO_x$, expressed as $NO_2$, at a rate exceeding 0.7 lb/MMBtu, as averaged over any calendar day (40 CFR 52.21).

C.14. Beginning January 1, 2008, for Unit 3 and January 19, 2010, for Unit 4, PPLM shall not exceed any of the following $NO_x$ emission limits from Units 3 or 4 (ARM 17.8.749, Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07 and Stipulation to Consent Decree CV-07-40-BLG-RFC-CSO entered 12/22/09):

a. 30-day rolling average emission rate of:

i. 0.18 lb/MMBtu weighted average for each hour that either unit is operating above 400 gross megawatts (MW); and

ii. 0.30 lb/MMBtu weighted average for each hour that either unit is operating at or below 400 gross MW

b. 1,363 lb/hr 30-day rolling average emission rate for each unit

c. 24-hour average emission rate (for each Operating Day) of:

i. 0.25 lb/MMBtu weighted average for each hour that either unit is operating above 400 gross MW; and

ii. 0.30 lb/MMBtu weighted average for each hour that either unit is operating at or below 400 gross MW

d. 1,893 lb/hr 24-hour average emission rate (for each Operating Day) for each unit.

For the purposes of this section, if a unit is operating above 400 MW for part of one hour and at or below 400 MW for the remainder of that hour, the applicable emissions limits shall be based on the average load for the hour. In addition, the emission rates for this condition are considered

for an "Operating Day" as defined in the Consent Decree entered 5/14/07 (CV-07-40-BLG-RFC-CSO), except for the purposes of the Montana Air Quality Permits (MAQP), "Operating Day" means any calendar day (midnight to midnight) in which *any* fuel is combusted in the unit.

C.15. PPLM shall operate digital controls, low-$NO_x$ burners and overfire air on Unit 3 sufficient to meet the emissions limits in Section III.C.14 (ARM 17.8.749 and Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07).

C.16. By January 1, 2009, PPLM shall complete the final design and by January 19, 2010, PPLM shall install and operate digital controls, low-$NO_x$ burners and overfire air on Unit 4 sufficient to meet the Unit 4 emissions limits in Section III.C.14 (ARM 17.8.749, Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07 and Stipulation to Consent Decree CV-07-40-BLG-RFC-CSO entered 12/22/09).

C.17. The Unit 3 & 4 $NO_x$ emission limits specified in Section III.C.14 shall apply at all times, including periods of start-up, shutdown, load fluctuation, maintenance and malfunction, regardless of cause (ARM 17.8.749 and Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07).

C.18. Should the Northern Cheyenne Reservation be redesignated to any PSD classification less stringent than Class I, the following conditions in Section III.C.18 shall be of no force and effect. However, any control designed and implemented pursuant to Section III.C.18 shall remain operable.

At such time as EPA promulgates requirements for Best Available Retrofit Technology (BART) for $NO_x$ control under the Clean Air Act, PPLM shall review Colstrip Units 3 & 4 for implementation of BART for $NO_x$ control. PPLM shall submit this analysis and recommendation for appropriate control to EPA for review and approval. This BART determination by EPA shall be subject to a formal hearing on the record after due notice to PPLM and the Northern Cheyenne Tribe. The determination of what constitutes BART shall be specific to Units 3 & 4 and shall take into consideration the costs of compliance, the energy and non-air quality environmental impacts of compliance, any existing pollution control technology in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. Failure to implement those control measures found to constitute BART shall be a violation of this permit. Compliance with the requirements of the consent decree entered 5/14/07 is deemed to satisfy this above requirement (Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07, EPA PSD Permit, and 40 CFR 52.21).

If there is a perceptible particulate plume on the Northern Cheyenne Tribe Reservation, as observed by an impartial observer designated by EPA, PPLM shall review Units 3 & 4 for implementation of BART for PM control. PPLM shall submit this analysis and a recommendation for appropriate control to EPA for review and approval. This BART determination by EPA shall be subject to a formal hearing on the record after due notice to PPLM and the Northern Cheyenne Tribe. The determination of what constitutes BART shall be specific to Units 3 & 4 and shall take into consideration the costs of compliance, the energy and non-air quality environmental impacts of compliance, any existing pollution control technology in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. Failure to implement those control measures found to constitute BART shall be a violation of this permit (EPA PSD Permit and 40 CFR 52.21).

C.19. PPLM shall comply with all requirements in the Acid Rain Appendix H of this permit (ARM 17.8.1210).

C.20. Emissions shall not be permitted in excess of any allowances that PPLM lawfully holds under Title IV of the FCAA or the regulations promulgated thereunder (ARM 17.8.1210(3)(a)).

a. A permit revision is not required for increases in emissions authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement (ARM 17.8.1210(3)(b)).

b. PPLM may not use allowances as a defense to noncompliance with any other applicable requirement (ARM 17.8.1210(3)(c)).

c. Any allowances shall be accounted for according to the procedures established in regulations promulgated under Title IV of the FCAA (ARM 17.8.1210(3)(d)).

C.21. PPLM shall install, operate, calibrate and maintain CEMS for the following:

a. A CEMS for the measurement of $SO_2$ shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

b. A CEMS for the measurement of $NO_x$ shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

c. A CEMS for the measurement of $CO_2$ or oxygen shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45);

d. A CEMS for the measurement of opacity shall be operated on each stack (ARM 17.8.340 and 40 CFR 60.45); and

e. Continuous monitoring for stack gas temperature, stack gas moisture (where necessary), megawatt production, and Btu per hour shall be performed on each unit (40 CFR 52.21).

f. PPLM shall maintain the data acquisition system such that load data in megawatts is recorded no less than once per minute (ARM 17.8.749 and Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07).

C.22. PPLM shall not exceed the heat input value of $6.63 \times 10^7$ MMBtu/yr averaged over any rolling 12-month period (ARM 17.8.749).

C.23. PPLM shall provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at the Tangential Coal-fired Boilers, Units 3 & 4 for PM (ARM 17.8.1504).

**Compliance Demonstration**

C.24. PPLM shall perform a Method 9 test or another method approved by the Department to monitor compliance with the opacity limitation in Section III.C.1. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.749 and ARM 17.8.106).

C.25. PPLM shall operate and maintain the opacity CEM to monitor compliance with the opacity limitation in Section III.C.1. according to the Opacity CEMS Appendix E (ARM 17.8.1213).

C.26. PPLM shall perform a Method 5 or Method 5B PM test, or another method approved by the Department, on the boilers annually to monitor compliance with the PM fuel burning limitation in Section III.C.2 and III.C.3. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual and the heat input must be calculated in accordance with 40 CFR Part 75 Appendix F, §5. Procedures for Heat Input (ARM 17.8.106 and 40 CFR Part 75 Appendix F).

C.27. PPLM shall operate and maintain the venturi scrubbers in accordance with manufacturer recommendations to control emissions on Units 3 & 4 in demonstrating compliance with PM limitations (ARM 17.8.1213).

C.28. PPLM shall perform a Method 6 or 6C test annually, to monitor compliance with the $SO_2$ limit in Section III.C.4. Heat input must be calculated in accordance with 40 CFR Part 75 Appendix F, §5. Procedures for Heat Input (ARM 17.8.1213 and 40 CFR Part 75, Appendix F).

C.29. PPLM shall operate and maintain the $SO_2$ CEMS in accordance with the $SO_2$ CEMS Appendix F of this permit (ARM 17.8.1213).

C.30. Compliance with the sulfur in coal limit in Section III.C.9 shall be based on a weekly average of individual daily composite coal samples as measured by 40 CFR Part 60, Appendix A Method 19 or another sampling schedule as approved by the Department (ARM 17.8.1213 and BHES Findings of Fact and Conclusions of Law signed on November 21, 1975; this requirement is "State Only").

C.31. PPLM shall perform a Method 7 or 7E test annually, to monitor compliance with the $NO_x$ limit in Section III.C.4. Heat input must be calculated in accordance with 40 CFR Part 75 Appendix F, §5. Procedures for Heat Input (ARM 17.8.1213 and 40 CFR Part 75 Appendix F).

C.32. PPLM shall operate and maintain the $NO_x$ CEMS in accordance with the $NO_x$ CEMS Appendix G of this permit (ARM 17.8.1213).

C.33. PPLM shall maintain a log of any exceedance of $NO_x$ when burning fuel other than coal as required by Section III.C.12. The Department will compare the calculated emission limit with the results from the $NO_x$ CEMS (ARM 17.8.1213).

C.34. PPLM shall monitor compliance with Section III.C.18 as required by EPA in the consent decree entered May 14, 2007. As part of these requirements, PPLM will maintain records demonstrating compliance with the $NO_x$ emission control requirements contained in Section III.C.15 & C.16 (ARM 17.8.1213, ARM 17.8.749, and Consent Decree CV-07-40-BLG-RFC-CSO entered 5/14/07).

C.35. PPLM shall monitor compliance with Section III.C.19 and 20 as required by Appendix H – Acid Rain Appendix (ARM 17.8.1213 and Appendix H).

C.36. Compliance with the heat input limit of Section III.C.22 shall be monitored based on the total tons of coal combusted in each of the boilers multiplied by a representative average Btu content for the coal. PPLM shall document, by month, the total fuel combusted in each boiler. By the 25$^{th}$ day of each month, PPLM shall calculate the tons of coal combusted for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.C.22. The information for each of the previous 12 months shall be submitted to the Department along with the annual emission inventory. The coal analysis shall be done as required by the $NO_x$ CEMS Appendix G, Section 5, 6, and 7 (ARM 17.8.1213).

C.37. All continuous monitors shall be operated, excess emissions reported, and performance tests conducted, in accordance with the requirements of 40 CFR Part 60, Subpart D, 40 CFR 60.7, 60.8, 60.11, 60.13, and 40 CFR Part 60 Appendix B Performance Specifications #1, #2, and #3 subject to the following:

a. The requirements of 40 CFR 60.48Da – Compliance Provisions (40 CFR Part 60, Subpart Da) shall apply to Units 3 & 4 (40 CFR 52.21);

b. The requirements of 40 CFR 60.49Da – Emissions Monitoring (40 CFR Part 60, Subpart Da) shall apply to Units 3 & 4 (40 CFR 52.21);

c. The requirements of 40 CFR 60.50Da – Compliance Determination Procedure and Methods (40 CFR Part 60, Subpart Da) shall apply to Units 3 & 4 (40 CFR 52.21);

d. The requirements of 40 CFR 60.51Da – Reporting Requirements (40 CFR Part 60, Subpart Da) shall apply to Units 3 & 4 (40 CFR 52.21);

e. PPLM shall operate the required monitors in accordance with the CEMS quality assurance (QA) plan submitted to the EPA in May 1998, unless an updated plan is accepted by the EPA. This plan may be revised by PPLM with approval of the Department (40 CFR 52.21);

f. Compliance requirements of 40 CFR 60.11(a) shall be amended per Section III.C.21 (40 CFR 52.21);

g. Each monitor modular part (i.e., opacity, $SO_2$, $NO_x$, diluent, and data handling units) of a continuous monitoring system shall attain a minimum annual on-line availability time of 85% on a minimal quarterly availability of 75% for each individual quarter. Should any given yearly or quarterly availability time drop below these respective limits, PPLM shall, within 90 days of the end of the first unexcused year or quarter, cause to be delivered to the facility factory tested and compatible monitor module(s) which had unacceptable availability times, unless PPLM can excuse the unacceptable performance by demonstrating, within ten calendar days of the end of such year or quarter, that the reason for the poor availability time has not caused another previous occurrence of unacceptable availability in question will be prevented in the future by a more effective maintenance/inventory program (40 CFR 52.21);

h. Upon two non-overlapping periods of unexcused, unacceptable availability of a module (yearly, quarterly or combination), PPLM shall within 30 days of the end of the year or quarter of the second unacceptable availability period, install, calibrate, operate, maintain, and report emission data using the second compatible module required by (g) above (40 CFR 52.21);

i. Within 60 days of the year or the quarter causing the second unacceptable availability period under Section (h) above, PPLM shall conduct a complete performance evaluation of the entire CEMS for that pollutant under 40 CFR 60.13(c) showing acceptability of the entire CEMS in question unless the module was the data handling unit alone. Within 75 days of the end of the year or quarter causing the second unacceptable availability period, PPLM shall furnish the Department with a written report of such evaluations and tests demonstrating acceptability of the system (40 CFR 52.21); and

j. In the event of a conflict between the requirements of the above-referenced federal regulations [specifically 40 CFR Part 60, Subpart Da] and the requirements of this permit, the requirements of this permit shall apply.

C.38. PPLM shall monitor compliance by following the CAM Plan (Appendix I). The CAM Plan, written by PPLM in accordance with ARM 17.8.1504, is included in Appendix I of the permit. (ARM 17.8.1503 and ARM 17.8.1213).

**Recordkeeping**

C.39. PPLM shall maintain, on site, a log of the results of the daily composite coal samples as required by Section III.C.30 and submit them to the Department upon request (ARM 17.8.1212).

C.40. PPLM shall maintain, on site, a log to record the emission limit calculations when burning fuel other than coal (ARM 17.8.1212).

C.41. PPLM shall complete all recordkeeping for Section III.C.18 and III.C.34 as required by EPA (ARM 17.8.1212).

C.42. Records shall be prepared and data kept in accordance with the Opacity CEMS Appendix E of this permit (ARM 17.8.1212).

C.43. PPLM shall prepare and maintain records of all inspection, maintenance, and operation activities associated with the venturi scrubbers (ARM 17.8.1212).

C.44. All source-testing recordkeeping shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. Method 9 source test reports for opacity need not be submitted unless requested by the Department (ARM 17.8.106).

C.45. Records shall be prepared and data kept in accordance with 40 CFR Part 75 and Acid Rain Appendix H, the $SO_2$ CEMS Appendix F, and the $NO_x$ CEMS Appendix G of this permit (ARM 17.8.1212 and 40 CFR Parts 72-78).

C.46. PPLM shall complete all recordkeeping for Section III.C.19 and 20 as required by the Acid Rain Appendix H in this permit (ARM 17.8.1212).

C.47. PPLM shall maintain on-site records for the CEMS and the stack parameter data as required in Section III.C.37 (ARM 17.8.1212).

C.48. Records shall be prepared and data kept in accordance with 40 CFR Part 64 and the CAM Plan Appendix I of this permit (ARM 17.8.1212 and 40 CFR Part 64).

C.49. PPLM shall maintain, as a permanent business record under its control for at least 5 years, all records required for compliance monitoring. Furthermore, the records must be available at the plant site for inspection by the Department and EPA, and must be submitted to the Department upon request (ARM 17.8.1212).

**Reporting**

C.50. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

C.51. The semiannual monitoring report shall provide (ARM 17.8.1212):

a. A summary of the log of daily composite coal samples;

b. A summary of any Method 9, 5, 5B, 6, 6C, 7, or 7E test conducted during the period; the actual test report for Method 9 tests need only be submitted to the Department upon request, as specified by Section III.C.24;

c. A summary of the stack parameter data and any other reports as required by Section III.C.47; and

d. A summary of the log required by Section III.C.33.

C.52. PPLM shall submit a written report of excess emission and monitoring system performance as required by 40 CFR 60.7(c). For the purposes of the report, excess emission shall be defined as any 6-minute, 3-hour, 24-hour, or 30-day period as applicable, for which the average emissions of the period of concern for opacity, $NO_x$, $SO_2$, as measured by the CEMS, exceed the applicable emissions for the periods as follows:

a. 6-minute average applies to each 6-minute non-overlapping period starting on the hour;

b. 3-hour period applies to any running 3-hour period containing 3 contiguous one-hour periods, starting on the hour;

c. 24-hour period applies to any calendar day; and

d. 30-day period applies to any running period of 30 consecutive calendar days.

C.53. PPLM shall submit the following information along with the excess emission reports:

a. The fuel feed rate and associated production figures corresponding to all periods of excess emissions (40 CFR 52.21);

b. The proximate analysis of the weekly composite sample of the fuel fired in each unit (40 CFR 52.21); and

c. Date, time and initial calibration values for each required calibration adjustment made on any monitor during the quarter, including any time in which the monitor was removed or inoperable for any reason (40 CFR 52.21).

## D. EU005 – Auxiliary Propane Boiler

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| D.1, D.6, D.10, D.13, D.14 | Boiler | Operation | Notification and log book | When in operation | Semiannually |
| D.2, D.7, D.8, D.10, D.11, D.13, D.14 | Opacity | 20% | Method 9 | As required by the Department and Section III.A.1 | |
| | | | Recordkeeping | Semiannually | |
| D.3, D.7, D.8, D.10, D.11, D.13, D.14 | PM from fuel combustion | $E=1.026*E^{-0.233}$ | Method 5 | As required by the Department and Section III.A.1 | |
| | | | Recordkeeping | Semiannually | |
| D.4, D.7, D.8, D.10, D.11, D.13, D.14 | Sulfur in fuel | 1 lb sulfur/ MMBtu | Recordkeeping | Semiannually | |
| D.5, D.9, D.12, D.15 | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD |

### Conditions

D.1. PPLM shall notify the Department of both start up and shut down of the auxiliary propane heater within 5 days of both start up and shut down. During operation, the auxiliary propane boiler shall operate in accordance with this Section III.D of this permit (ARM 17.8.1215).

D.2. PPLM may not cause or authorize to be discharged into the atmosphere from the boiler, when in operation, visible emissions that exhibit an opacity of 20% or greater, unless specified elsewhere in this permit (ARM 17.8.304).

D.3. PPLM shall not cause or authorize PM caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of $E = 1.026*H^{-0.233}$ for existing fuel burning equipment, where H = heat input capacity in MMBtu/hr and E = maximum allowable emission rate in lb/MMBtu (ARM 17.8.309).

D.4. PPLM shall not fire in the boiler liquid or solid fuels containing sulfur in excess of 1.0 lb of sulfur/MMBtu (ARM 17.8.322).

D.5. PPLM shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 63, Subpart DDDDD, *National Emissions Standards for Hazardous Air Pollutants for Major Industrial Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

### Compliance Demonstration

D.6. Compliance with the operational and notification requirement in Section III.D.1 may be satisfied by notifying the Department within 5 days of start up and shut down of the auxiliary propane boiler and PPLM shall prepare a log to record the time and dates when the auxiliary propane boiler is operated (ARM 17.8.1213).

D.7. PPLM shall burn propane in the emission unit while in operation to monitor compliance with the emission limits in Section III.D.2, 3, and 4 (ARM 17.8.1213).

D.8. As required by the Department and Section III.A.1, PPLM shall perform a Method 5 or a Method 9 test in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.1213 and ARM 17.8.106).

D.9. Compliance monitoring shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

**Recordkeeping**

D.10. PPLM shall maintain on site an operations and maintenance log, which includes the type of fuel fired in the boiler each day it is in operation and the information stated in Section III.D.6. The log shall include the date and time of the maintenance and the type of maintenance that was performed (ARM 17.8.1212).

D.11. Method 5 and Method 9 test reports must be maintained on-site and must be submitted to the Department upon request and in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.1212).

D.12. Recordkeeping shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

**Reporting**

D.13. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

D.14. The semiannual monitoring report shall provide (ARM 17.8.1212):

a. Summary of any instance in which fuel other than propane was used in the boiler, including date, time and duration, and a summary operating times; and

b. Summary of any required test that was conducted during the reporting period as required by Section III.D.11.

D.15. Reporting shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR 63, Subpart DDDDD).

## E. EU006 – Building Heater Boiler

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| E.1, E.6, E.11, , E.16, E.17 | Building heater boiler | Operation | Notification | When operating | Semiannually |
| E.2, E.7, E.12, E.15, E.16, E.17 | PM from fuel combustion | $E = 1.026 * E^{-0.233}$ | Method 5 | As required by the Department and Section III.A.1 | |
| E.3, E.8, E.12, E.15, E.16, E.17 | Opacity | 20% | Method 9 | As required by the Department and Section III.A.1 | |
| E.4, E.9, E.13, E.14, E.16, E.17 | Sulfur in fuel | 1lb sulfur/MMBtu | Type of fuel fired | Ongoing | |
| E.5, E.10, E.14, E.18 | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD | 40 CFR Part 63, Subpart DDDDD |

### Conditions

E.1. Colstrip shall notify the Department of both start up and shut down of the building heater boiler within 5 days of both start up and shut down. During operation, the building heater boiler shall operate in accordance with this Section III.E of this permit (ARM 17.8.1215).

E.2. PPLM shall not cause or authorize PM caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of $E = 1.026 * H^{-0233}$ for existing fuel burning equipment, where H = heat input capacity in MMBtu/hr and E = maximum allowable emission rate in lb/MMBtu (ARM 17.8.309).

E.3. PPLM may not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibits an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

E.4. PPLM shall not burn liquid or solid fuel containing sulfur in excess of 1 lb of sulfur/MMBtu fired (ARM 17.8.322).

E.5. PPLM shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 63, Subpart DDDDD, *National Emissions Standards for Hazardous Air Pollutants for Major Industrial Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

### Compliance Demonstration

E.6. Compliance with the operational and notification requirement may be satisfied by notifying the Department within 5 days of start up and shut down of the building heater boiler. PPLM shall use the computer point log to record the time and dates when the building heater boiler is operated (ARM 17.8.1213).

E.7. As required by the Department and Section III.A.1, PPLM shall perform a Method 5 test in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

E.8. As required by the Department and Section III.A.1, PPLM shall perform a Method 9 test on the building heater boiler in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.1213 and ARM 17.8.106).

E.9. PPLM shall burn oil with a sulfur content that does not exceed 1 lb of sulfur/MMBtu to monitor compliance with the limit in Section III.E.4 (ARM 17.8.1213).

E.10. Compliance monitoring shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

**Recordkeeping**

E.11. PPLM shall maintain on site the computer point log as required by Section III.E.6 (ARM 17.8.1212).

E.12. Method 5 and Method 9 test reports must be maintained on-site and must be submitted to the Department upon request and in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.1212).

E.13. PPLM shall maintain on site copies of the supplier's fuel analysis for each fuel delivery. The analysis may be based on an average fuel produced over a period of time (ARM 17.8.1212).

E.14. Recordkeeping shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

**Reporting**

E.15. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

E.16. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

E.17. The semiannual monitoring report shall provide a (ARM 17.8.1212):

a. Summary of hours and dates of operation of the boiler as required by Sections III.E.6 and 11;

b. Summary of the average sulfur content of the fuel consumed; and

c. Summary of any required test that was conducted during the reporting period as required by Section III.E.10.

E.18 Reporting shall be performed in accordance with 40 CFR Part 63, Subpart DDDDD, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart DDDDD).

**F. EU007, EU008, and EU009– Coal Handling Systems (Units 1 & 2 – Enclosed conveyors, dust suppressant, telescopic chute), Coal Handling Systems (Units 3 & 4 – silos, distribution bin, surge pile tunnel, crushing and sampling house, and vacuum cleaning system) and Coal Piles**

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| F.1, F.2, F.5, F.6, F.7, F.9, F.10, F.12, F.13 | Opacity | 20% | Visual Survey/Method 9 | Weekly | Semiannually |
| F.3, F.6, F.9, F.10, F.12, F.13 | PM | $E = 55 * {}^{p0.11} – 40$ | Visual Survey/Method 9 | Weekly | |
| F.4, F.8, F.11, F.12, F.13 | Uncovered coal storage piles | Sealed | Operation of controls | Ongoing | |

**Conditions**

F.1. PPLM may not cause or authorize emissions from the Coal Handling Systems and Coal Piles to be discharged into the outdoor atmosphere that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

F.2. PPLM shall not cause or authorize the production, handling transportation, or storage of any material unless reasonable precautions to control emissions of PM are taken. Such emissions of airborne particulate from any stationary source shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308(1)).

F.3. The particulate emissions from process weight shall not exceed the value calculated by $E = 55.0 * p^{0.11} – 40$, where E = Emissions in pounds per hour and P = process weight rate in tons per hour (ARM 17.8.310).

F.4. Uncovered coal storage piles, which are not routinely in use, must be sealed to prevent airborne emissions (ARM 17.8.749).

**Compliance Demonstration**

F.5. PPLM shall conduct a weekly visual survey of visible emissions on the Coal Handling System. Once per calendar week, during daylight hours, PPLM shall visually survey the Coal Handling System for any visible emissions. If visible emissions are observed during the visual survey, PPLM must conduct a Method 9 source test. The Method 9 source test must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then PPLM shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) and any corrective action taken in a log. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

F.6. For Units 3 & 4, PPLM shall use a dust suppression system using chemical or water sprays in Lowering Well “A”, Lowering Well “B”, the coal at transfer points in area “C” transfer house, and the vibratory feeders associated with Conveyor 80A as necessary to monitor compliance with Section III.F.2 (ARM 17.8.1213).

F.7. For Units 1 & 2, PPLM shall use enclosed conveyors and fabric filter control to contain dust from handling and crushing materials. A telescopic chute shall be used to contain dust from materials falling from Lowering Wells #6, and #7. Dust suppressant shall be used as necessary to reduce particulate emission from coal (ARM 17.8.1213).

F.8. PPLM shall maintain an onsite log of all actions taken to monitor compliance with Section III.F.4. The log should include the action taken along with the date and time the action occurred (ARM 17.8.1213).

**Recordkeeping**

F.9. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. The reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

F.10. PPLM shall maintain on-site a log containing all visual observations monitoring compliance with the visual survey requirement(s). The log shall include, at a minimum, the required information, the date, the time, and the initials of the documenting personnel (ARM 17.8.1212).

F.11. Recordkeeping of the log required in Section III.F.8 shall be maintained on site (ARM 17.8.1212).

**Reporting**

F.12. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

F.13. The semiannual monitoring report shall provide a (ARM 17.8.1212):

a. Summary of all visual observations monitoring compliance with the visual survey requirements; and

b. Summary of the log relating to the actions taken on the uncovered coal piles.

## G. EU010 – Emergency Diesel Generators

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| G.1, G.5, G.7, G.9, G.10, G.13, G.14, G.15 | Opacity | 20% | Visual Survey/Method 9 | Weekly | Semiannually |
| G.2, G.6, G.9, G.11, G.12, G.13, G.14, G.15 | Particulate from fuel combustion | $E = 1.026 * H^{-0.233}$ | Method 5 | As required by the Department and Section III.A.1 | Semiannually |
| G.3,G.7., G.9., G.11, G.14, G.15 | Hours of Operation | Operations Limited to Specific Situations | Operating Log | Monthly | Semiannually |
| G.4, G.8, G.12, G.14, G.16 | 40 CFR Part 63, Subpart ZZZZ | 40 CFR Part 63, Subpart ZZZZ | 40 CFR Part 63, Subpart ZZZZ | 40 CFR Part 63, Subpart ZZZZ | 40 CFR Part 63, Subpart ZZZZ |

### Conditions

G.1. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibits an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

G.2. PPLM shall not cause or authorize PM caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of $E = 1.026 * H^{-0.233}$ for existing fuel burning equipment, where H = heat input capacity in MMBtu/hr and E maximum allowable emission rate in lbs/MMBtu (ARM 17.8.309).

G.3. PPLM shall limit the use of the emergency diesel generators to times of need for emergency power generation (ARM 17.8.756).

G.4. PPLM shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.342 and 40 CFR Part 63, Subpart ZZZZ).

### Compliance Demonstration

G.5. Only in times of generator operations, PPLM shall conduct a weekly visual survey (during daylight hours) of visible emissions on the emergency diesel generators. If visible emissions are observed during the visual survey, PPLM must conduct a Method 9 source test. The Method 9 source test must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then PPLM shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) and any corrective action taken in a log. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

G.6. As required by the Department and Section III.A.1, PPLM shall perform a Method 5 in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

G.7. Compliance with the limits in Section III.G.3 shall be demonstrated by logging the date, time, hours of operation, reason for use, and operator's initials whenever the emergency diesel generators are utilized for emergency power generation (ARM17.8.1213).

G.8. Compliance monitoring shall be performed in accordance with 40 CFR Part 63, Subpart ZZZZ, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart ZZZZ).

**Recordkeeping**

G.9. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. The reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

G.10. PPLM shall maintain on-site a log containing all visual observations monitoring compliance with the visual survey requirement(s). The log shall include, at a minimum, the required information, the date, the time, and the initials of the documenting personnel (ARM 17.8.1212).

G.11. PPLM shall maintain on site a log as described in Section III.G.7. PPLM shall include in that log the fuel type used whenever the emergency generators are used for emergency power generation. In addition, PPLM shall log the monthly sum of the total hours of operation of the emergency generators for the previous rolling 12-month time period (ARM 17.8.1212).

G.12. Recordkeeping shall be performed in accordance with 40 CFR Part 63, Subpart ZZZZ, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart ZZZZ).

**Reporting**

G.13. All source test reports must be submitted to the Department in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

G.14. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

G.15. The semiannual monitoring report shall provide (ARM 17.8.1212):

a. A summary of all visual observations monitoring compliance with the visual survey requirement(s);

b. A summary of any Method 5 tests that were conducted; and

c. A summary of emergency generator use including a summary of hours used and reason for use.

G.16. Reporting shall be performed in accordance with 40 CFR Part 63, Subpart ZZZZ, as applicable (ARM 17.8.342 and 40 CFR Part 63, Subpart ZZZZ).

## H. EU012 - Lime Handling System

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| H.1, H.4, H.6, H.9, H.10 | Reasonable Precautions | 20% | Operation of controls | Ongoing | Semiannually |
| H.2, H.5, H.7, H.9, H.10 | Opacity | 20% | Visual Survey/Method 9 | Weekly | |
| H.3, H.5, H.8, H.9, H.10 | PM | $E = 55 * p^{0.11} – 40$ | Visual Survey/Method 9 | Weekly | |

### Conditions

H.1. PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne PM are taken (ARM 17.8.308(1)).

H.2. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibits an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

H.3. The particulate emissions from process weight shall not exceed the value calculated by $E = 55.0 * P^{0.11} – 40$, where E is the rate of emissions in pounds per hour and P is the process weight rate in tons per hour (ARM 17.8.310).

### Compliance Demonstration

H.4. PPLM shall operate the pneumatic system when unloading lime to monitor compliance with the reasonable precautions requirement (ARM 17.8.1213).

H.5. PPLM shall conduct a weekly visual survey of visible emissions on the Lime Handling System. Once per calendar week, during daylight hours, PPLM shall visually survey the Lime Handling System for any visible emissions. If visible emissions are observed during the visual survey, PPLM must conduct a Method 9 source test. The Method 9 source test must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then PPLM shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) and any corrective action taken in a log, Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

### Recordkeeping

H.6. PPLM shall maintain a log of the operation of the pneumatic system as required in Section III.H.4. The log shall include date and time of operation of the pneumatic conveyor coinciding with the unloading of lime (ARM 17.8.1212).

H.7. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. The reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

H.8. PPLM shall maintain on-site a log containing all visual observations monitoring compliance with the visual survey requirement(s). The log shall include, at a minimum, the required information, the date, the time, and the initials of the documenting personnel (ARM 17.8.1212).

**Reporting**

H.9. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

H.10. The semiannual monitoring report shall provide (ARM 17.8.1212):

a. A summary of the log of operation of the pneumatic system as required in Section III.H.6; and

b. A summary of all visual observations monitoring compliance with the visual survey requirement(s).

## I. EU013 - Plant Roads; EU014 – Process Ponds

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| I.1, I.3 – I.7 | Reasonable Precautions | 20% | Visual Surveys/Method 9 | Weekly | Semiannually |
| I.2 – I.7 | Opacity | 20% | Visual Surveys/ Method 9 | Weekly | |

### Conditions

I.1. PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne PM are taken (ARM 17.8.308).

I.2. PPLM may not cause or authorize emissions from the plant roads to be discharged into the outdoor atmosphere that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

### Compliance Demonstration

I.3. PPLM shall conduct a weekly visual survey of visible emissions on the plant roads and process ponds. Once per calendar week, during daylight hours, PPLM shall visually survey the plant roads and process ponds for any visible emissions. If visible emissions are observed during the visual survey, PPLM must conduct a Method 9 source test. The Method 9 source test must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then PPLM shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) and any corrective action taken in a log. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

### Recordkeeping

I.4. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. The reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

I.5. PPLM shall maintain on-site a log containing all visual observations monitoring compliance with the visual survey requirement(s). The log shall include, at a minimum, the required information, the date, the time, and the initials of the documenting personnel (ARM 17.8.1212).

### Reporting

I.6. The annual compliance certification report required and logged as specified by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

I.7. The semiannual monitoring report shall provide a summary of all visual observations monitoring compliance with the visual survey requirement(s) (ARM 17.8.1212).

## J. EU015 – Underground Gasoline Tank

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| J.1, J.3, J.5, J.7, J.8, J.9 | Opacity | 20% | Method 9 | As required by the Department and Section III.A.1 | Semiannually |
| J.2, J.4, J.6, J.8, J.9 | Underground gasoline tank | 250 gallons or > gasoline in tank | Submerged fill pipe | Ongoing/when loading | |

### Conditions

J.1. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibits an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

J.2. PPLM shall not load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device or is a pressure tank (ARM 17.8.324(3)).

### Compliance Demonstration

J.3. As required by the Department and Section III.A.1, PPLM shall perform a Method 9 test to monitor compliance with the permit limit in Section III.J.1. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual, or another method approved by the Department (ARM 17.8.106 and ARM 17.8.749).

J.4. PPLM has an installed tank with a permanently submerged fill pipe and shall continue to operate the submerged fill pipe during loading (ARM 17.8.749).

### Recordkeeping

J.5. All compliance source-testing recordkeeping shall be performed in accordance with the Source Test Protocol and Procedures Manual, and shall be maintained on site. Method 9 source test reports for opacity need not be submitted unless requested by the Department (ARM 17.8.106).

J.6. PPLM shall maintain a log to monitor continuous use of the submerged fill pipe by maintaining a log of tank loading. The log shall include the date and time of loading, and state that a permanent submerged fill pipe was used or that the tank is equipped with a vapor loss control device or is a pressure tank (ARM 17.8.1213).

### Reporting

J.7. Method 9 test reports as specified in Section III.J.5 shall be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

J.8. The annual compliance certification report required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

J.9. The semiannual monitoring report shall provide (ARM 17.8.1212):

a. A summary of any instances that the submerged fill pipe (or vapor loss control) was not used during tank loading, including date, time, and duration of loading; and

b. A summary of any Method 9 test conducted during the period.

## K. EU017 – Tangential Coal Fired Units 1-4 Mercury Emissions

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| K.1, K.2, K.3, K.4, K.5, K.6, K.7, K.8, K.9 | Mercury Emissions | 0.9 lb/TBtu and Installation/ Operation of Mercury Control System | MEMS | Ongoing | Quarterly |

### Conditions

K.1. Beginning January 1, 2010, facility-wide emissions of mercury (Hg) shall not exceed 0.9 pounds per trillion British thermal units (lb/TBtu), calculated as a rolling 12-month average. The facility-wide emissions shall be calculated according to the following equation (ARM 17.8.771, this requirement is "State Only"):

$$\text{Facility-wide Hg emissions} = (1/4) \times (\text{Unit1}_{\text{lb/TBtu}} + \text{Unit2}_{\text{lb/TBtu}} + \text{Unit3}_{\text{lb/TBtu}} + \text{Unit4}_{\text{lb/TBtu}})$$

Where: $\text{Unit1}_{\text{lb/TBtu}}$ = rolling 12-month mercury emissions from Unit 1 as an average of the last 12 individual calendar monthly averages.

$\text{Unit2}_{\text{lb/TBtu}}$ = rolling 12-month mercury emissions from Unit 2 as an average of the last 12 individual calendar monthly averages.

$\text{Unit3}_{\text{lb/TBtu}}$ = rolling 12-month mercury emissions from Unit 3 as an average of the last 12 individual calendar monthly averages.

$\text{Unit4}_{\text{lb/TBtu}}$ = rolling 12-month mercury emissions from Unit 4 as an average of the last 12 individual calendar monthly averages.

K.2. On each Unit 1-4, PPLM shall install a mercury control system that oxidizes and sorbs emissions of mercury. PPLM shall implement the operation and maintenance of mercury control systems on or before January 1, 2010 (ARM 17.8.771, this requirement is "State Only").

### Compliance Demonstration

K.3. PPLM shall comply with all applicable standards and limitations, and the applicable operating, reporting, recordkeeping, and notification requirements contained in 40 CFR Part 75 (ARM 17.8.771, this requirement is "State Only").

K.4. Enforcement of Section III.K.1., where applicable, shall be determined by utilizing data taken from Mercury Emission Monitoring Systems (MEMS), installed on each Unit 1-4. The MEMS shall be comprised of equipment as required in 40 CFR 75.81(a) and defined in 40 CFR 72.2. The above does not relieve PPLM from meeting any applicable requirements of 40 CFR Part 75. Testing requirements shall be as specified in 40 CFR Part 75, and shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.771, this requirement is "State Only").

K.5. The MEMS shall be installed, certified, and operating on each Unit 1-4 stack outlet on or before January 1, 2010. MEMS shall comply with the applicable provisions of 40 CFR Part 75. The monitors shall also conform with requirements included in Appendix J (ARM 17.8.771, this requirement is "State Only").

**Recordkeeping**

K.6. PPLM shall conduct recordkeeping pursuant to Appendix J (ARM 12.8.1212, this requirement is "State Only").

**Reporting**

K.7. PPLM shall report to the Department within 30 days after the end of each calendar quarter, as described in Appendix J (ARM 17.8.749, this requirement is "State Only"):

a. For each Unit 1-4, the monthly average lb/TBtu mercury emission rate, for each month of the quarter;

b. For each Unit 1-4, the 12-month rolling average lb/TBtu mercury emission rate, for each month of the reporting quarter;

c. The 12-month facility-wide rolling average lb/TBtu mercury emission rate, calculated according to Section III.L.1, for each month of the reporting quarter; and

d. For each Unit 1-4, the number of operating hours that the MEMS were unavailable or not operating within quality assurance limits (monitor downtime).

K.8. The first quarterly report must be received by the Department by April 30, 2010, but shall not include 12-month rolling averages. The first quarterly report to include 12-month rolling averages must be received by the Department by January 30, 2011 (ARM 17.8.749).

K.9. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

## L. EU018 – Mercury Oxidizer/Sorbent Handling Systems (Units 1-4)

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| L.1, L.3, L.4, L.5, L.6, L.7, L.8 | Opacity | 20% | Visual Survey/ Method 9 | Weekly | Semiannual |
| L.2, L.3, L.4, L.5, L.6, L.7, L.8 | Oxidizer/Sorbent Handling System | Operate/ maintain bin vent | | | |

### Conditions

L.1. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibits an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304(2)).

L.2. PPLM shall operate and maintain the mercury oxidizer/sorbent handling systems, including the bin vent filter systems, to provide the maximum air pollution control for that which the systems were designed (ARM 17.8.749).

### Compliance Demonstration

L.3. PPLM shall conduct a weekly visual survey of visible emissions on the Mercury Oxidizer/Sorbent Handling System. Once per calendar week, during daylight hours, PPLM shall visually survey the Mercury Oxidizer/Sorbent Handling System for any visible emissions. If visible emissions are observed during the visual survey, PPLM must conduct a Method 9 source test. The Method 9 source test must begin within one hour of any observation of visible emissions. If visible emissions meet or exceed 15% opacity based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. If corrective actions are taken, then PPLM shall immediately conduct a subsequent visual survey (and subsequent Method 9 source test if visible emissions remain) to monitor compliance. The person conducting the visual survey shall record the results of the survey (including the results of any Method 9 source test performed) and any corrective action taken in a log. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

### Recordkeeping

L.4. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual, and shall be maintained on site. The reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

L.5. PPLM shall maintain on-site a log containing all visual observations monitoring compliance with the visual survey requirement(s). The log shall include, at a minimum, the required information, the date, the time, and the initials of the documenting personnel (ARM 17.8.1212).

### Reporting

L.6. All method reports shall be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

L.7. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

L.8. The semiannual monitoring report shall provide a summary of all visual observations monitoring compliance with the visual survey requirement(s) (ARM 17.8.1212).

## SECTION IV. NON-APPLICABLE REQUIREMENTS

Air Quality Administrative Rules of Montana (ARM) and Federal Regulations identified as not applicable to the facility or to a specific emissions unit at the time of the permit issuance are listed below (ARM 17.8.1214). The following list does not preclude the need to comply with any new requirements that may become applicable during the permit term.

### A. Facility-Wide

The following table contains non-applicable requirements, which are administrated by the Air Resources Management Bureau of the Department of Environmental Quality.

| Rule Citation | Reason |
|---|---|
| 40 CFR Part 60 Subparts C, Ca, Cb<br>40 CFR Part 60 Subparts Da, Db, Dc<br>40 CFR Part 60 Subparts E-J<br>40 CFR Part 60 Subparts K, Ka, Kb<br>40 CFR Part 60 Subparts L-Z<br>40 CFR Part 60 Subparts AA-EE<br>40 CFR Part 60 Subparts GG-HH<br>40 CFR Part 60 Subparts KK-NN<br>40 CFR Part 60 Subparts PP-XX<br>40 CFR Part 60 Subparts AAA-BBB<br>40 CFR Part 60 Subparts DDD<br>40 CFR Part 60 Subparts FFF-LLL<br>40 CFR Part 60 Subparts NNN-VVV<br>40 CFR Part 61 Subparts B-F<br>40 CFR Part 61 Subparts H-L<br>40 CFR Part 61 Subparts N-T<br>40 CFR Part 61 Subparts V-W<br>40 CFR Part 61 Subpart Y<br>40 CFR Part 61 Subpart BB<br>40 CFR Part 61 Subpart FF<br>40 CFR Part 63 Subparts F-I<br>40 CFR Part 63 Subparts L-O<br>40 CFR Part 63 Subpart Q<br>40 CFR Part 63 Subpart R<br>40 CFR Part 63 Subpart T<br>40 CFR Part 63 Subpart W<br>40 CFR Part 63 Subpart X<br>40 CFR Part 63 Subpart EE | These requirements are not applicable because the facility is not an affected source as defined in these regulations. |
| 40 CFR Part 82 Subpart A<br>40 CFR Part 82 Subpart C<br>40 CFR Part 82 Subpart D<br>40 CFR Part 82 Subpart E<br>40 CFR Part 82 Subpart G | The facility does not conduct the activities addressed by these regulations. |

## B. Emission Units

| Emission Units | Rule Citation | | Reason |
|---|---|---|---|
| | State | Federal | |
| EU005,<br>EU006,<br>EU007,<br>EU008,<br>EU009,<br>EU013 | | 40 CFR Part 60 Subpart D<br>40 CFR Part 82 Subpart B<br>40 CFR Parts 72-73<br>40 CFR Parts 75-78 | This emitting unit is not in the source category or the equipment is not used at the facility |
| EU001,<br>EU002,<br>EU003,<br>EU004 | | 40 CFR Part 73 Subpart G<br>40 CFR Part 82 Subpart B | |

## SECTION V. GENERAL PERMIT CONDITIONS

### A. Compliance Requirements

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(a)-(c)&(e), §1206(6)(c)&(b)

1. The permittee must comply with all conditions of the permit. Any noncompliance with the terms or conditions of the permit constitutes a violation of the Montana Clean Air Act, and may result in enforcement action, permit modification, revocation and reissuance, or termination, or denial of a permit renewal application under ARM Title 17, Chapter 8, Subchapter 12.

2. 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.

3. 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 the permit. If appropriate, this factor may be considered as a mitigating factor in assessing a penalty for noncompliance with an applicable requirement if the source demonstrates that both the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations, and that such health, safety or environmental impacts were unforeseeable and could not have otherwise been avoided.

4. The permittee shall furnish to the Department, within a reasonable time set by the Department (not to be less than 15 days), any information that the Department 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 Department copies of those records that are required to be kept pursuant to the terms of the permit. This subsection does not impair or otherwise limit the right of the permittee to assert the confidentiality of the information requested by the Department, as provided in 75-2-105, MCA.

5. Any schedule of compliance for applicable requirements with which the source is not in compliance with at the time of permit issuance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it was based.

6. For applicable requirements that will become effective during the permit term, the source shall meet such requirements on a timely basis unless a more detailed plan or schedule is required by the applicable requirement or the Department.

### B. Certification Requirements

ARM 17.8, Subchapter 12, Operating Permit Program §1207 and §1213(7)(a)&(c)-(d)

1. Any application form, report, or compliance certification submitted pursuant to ARM Title 17, Chapter 8, Subchapter 12, shall contain certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under ARM Title 17, Chapter 8, Subchapter 12, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

2. Compliance certifications shall be submitted by February 15 of each year, or more frequently if otherwise specified in an applicable requirement or elsewhere in the permit. Each certification must include the required information for the previous calendar year (i.e., January 1 – December 31).

3. Compliance certifications shall include the following:

   a. The identification of each term or condition of the permit that is the basis of the certification;

   b. The identification of the method(s) or other means used by the owner or operator for determining the status of compliance with each term or condition during the certification period, and whether such methods or other means provide continuous or intermittent data, as well as the additional information required by ARM 17.8.1213(7)(c)(ii);

   c. The status of compliance with the terms and conditions of the permit for the period covered by the certification, *including whether compliance during the period was continuous or intermittent* (based on the method or means designated in ARM 17.8.1213(7)(c)(ii), as described above); and

   d. Such other facts as the Department may require to determine the compliance status of the source.

4. All compliance certifications must be submitted to the EPA, as well as to the Department, at the addresses listed in the Notification Addresses Appendix of this permit.

**C. Permit Shield**
ARM 17.8, Subchapter 12, Operating Permit Program §1214(1)-(4)

1. The applicable requirements and non-federally enforceable requirements are included and specifically identified in this permit and the permit includes a precise summary of the requirements not applicable to the source. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements and any non-federally enforceable requirements as of the date of permit issuance.

2. The permit shield described in 1 above shall remain in effect during the appeal of any permit action (renewal, revision, reopening, or revocation and reissuance) to the Board of Environmental Review (Board), until such time as the Board renders its final decision.

3. Nothing in this permit alters or affects the following:

   a. The provisions of 42 U.S.C. Sec. 7603 of the FCAA, including the authority of the administrator under that section;

   b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

   c. The applicable requirements of the Acid Rain Program, consistent with 42 U.S.C. Sec. 7651g(a) of the FCAA;

   d. The ability of the administrator to obtain information from a source pursuant to 42 U.S.C. Sec. 7414 of the FCAA;

e. The ability of the Department to obtain information from a source pursuant to the Montana Clean Air Act, Title 75, Chapter 2, MCA;

f. The emergency powers of the Department under the Montana Clean Air Act, Title 75, Chapter 2, MCA; and

g. The ability of the Department to establish or revise requirements for the use of Reasonably Available Control Technology (RACT) as defined in ARM Title 17, Chapter 8. However, if the inclusion of a RACT into the permit pursuant to ARM Title 17, Chapter 8, Subchapter 12, is appealed to the Board, the permit shield, as it applies to the source's existing permit, shall remain in effect until such time as the Board has rendered its final decision.

4. Nothing in this permit alters or affects the ability of the Department to take enforcement action for a violation of an applicable requirement or permit term demonstrated pursuant to ARM 17.8.106, Source Testing Protocol.

5. Pursuant to ARM 17.8.132, for the purpose of submitting a compliance certification, nothing in these rules shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance. However, when compliance or noncompliance is demonstrated by a test or procedure provided by permit or other applicable requirements, the source shall then be presumed to be in compliance or noncompliance, unless that presumption is overcome by other relevant credible evidence.

6. The permit shield will not extend to minor permit modifications or changes not requiring a permit revision (see Sections I & J).

7. The permit shield will extend to significant permit modifications and transfer or assignment of ownership (see Sections K & N).

**D. Monitoring, Recordkeeping, and Reporting Requirements**
ARM 17.8, Subchapter 12, Operating Permit Program §1212(2)&(3)

1. Unless otherwise provided in this permit, the permittee shall maintain compliance monitoring records that include the following information:

   a. The date, place as defined in the permit, and time of sampling or measurement;

   b. The date(s) analyses were performed;

   c. The company or entity that performed the analyses;

   d. The analytical techniques or methods used;

   e. The results of such analyses; and

   f. The operating conditions at the time of sampling or measurement.

2. The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years after the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All monitoring data, support information, and required reports

and summaries may be maintained in computerized form at the plant site if the information is made available to Department personnel upon request, which may be for either hard copies or computerized format. Strip-charts must be maintained in their original form at the plant site and shall be made available to Department personnel upon request.

3. The permittee shall submit to the Department, at the addresses located in the Notification Addresses Appendix of this permit, reports of any required monitoring by February 15 and August 15 of each year, or more frequently if otherwise specified in an applicable requirement or elsewhere in the permit. The monitoring report submitted on February 15 of each year must include the required monitoring information for the period of July 1 through December 31 of the previous year. The monitoring report submitted on August 15 of each year must include the required monitoring information for the period of January 1 through June 30 of the current year. All instances of deviations from the permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official, consistent with ARM 17.8.1207.

**E. Prompt Deviation Reporting**
ARM 17.8, Subchapter 12, Operating Permit Program §1212(3)(c)

The permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. To be considered prompt, deviations shall be reported to the Department within the following timeframes (unless otherwise specified in an applicable requirement):

1. For deviations which may result in emissions potentially in violation of permit limitations:

   a. An initial phone notification (or faxed or electronic notification) describing the incident within 24 hours (or the next business day) of discovery; and,

   b. A follow-up written, faxed, or electronic report within 30 days of discovery of the deviation that describes the probable cause of the reported deviation and any corrective actions or preventative measures taken.

2. For deviations attributable to malfunctions, deviations shall be reported to the Department in accordance with the malfunction reporting requirements under ARM 17.8.110; and

3. For all other deviations, deviations shall be reported to the Department via a written, faxed, or electronic report within 90 days of discovery (as determined through routine internal review by the permittee).

Prompt deviation reports do not need to be resubmitted with regular semiannual (or other routine) reports, but may be referenced by the date of submittal.

**F. Emergency Provisions**
ARM 17.8, Subchapter 12, Operating Permit Program §1201(13) and §1214(5), (6)&(8)

1. An “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 causes the source to exceed a technology-based emission limitation under this permit due to the unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of reasonable preventive maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates through properly signed, contemporaneous logs, or other relevant evidence, that:

   a. An emergency occurred and 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 emission standards or other requirements in the permit; and

   d. The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirements of ARM 17.8.1212(3)(c). This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

3. These emergency provisions are in addition to any emergency, malfunction or upset provision contained in any applicable requirement.

**G. Inspection and Entry**

ARM 17.8, Subchapter 12, Operating Permit Program §1213(3)&(4)

1. Upon presentation of credentials and other requirements as may be required by law, the permittee shall allow the Department, the administrator, or an authorized representative (including an authorized contractor acting as a representative of the Department or the administrator) to perform the following:

   a. Enter the premises where a source required to obtain a permit is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

   c. Inspect at reasonable times any facilities, emission units, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

   d. As authorized by the Montana Clean Air Act and rules promulgated thereunder, sample or monitor, at reasonable times, any substances or parameters at any location for the purpose of assuring compliance with the permit or applicable requirements.

2. The permittee shall inform the inspector of all workplace safety rules or requirements at the time of inspection. This section shall not limit in any manner the Department's statutory right of entry and inspection as provided for in 75-2-403, MCA.

**H. Fee Payment**

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(f) and ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation, and Open Burning Fees §505(3)-(5) (STATE ONLY)

1. The permittee must pay application and operating fees, pursuant to ARM Title 17, Chapter 8, Subchapter 5.

2. Annually, the Department shall provide the permittee with written notice of the amount of the fee and the basis for the fee assessment. The air quality operation fee is due 30 days after receipt of the notice, unless the fee assessment is appealed pursuant to ARM 17.8.511. If any portion of the fee is not appealed, that portion of the fee that is not appealed is due 30 days after receipt of the notice. Any remaining fee, which may be due after the completion of an appeal, is due immediately upon issuance of the Board's decision or upon completion of any judicial review of the Board's decision.

3. If the permittee fails to pay the required fee (or any required portion of an appealed fee) within 90 days after the due date of the fee, the Department may impose an additional assessment of 15% of the fee (or any required portion of an appealed fee) or $100, whichever is greater, plus interest on the fee (or any required portion of an appealed fee), computed at the interest rate established under 15-31-510(3), MCA.

**I. Minor Permit Modifications**
ARM 17.8, Subchapter 12, Operating Permit Program §1226(3)&(11)

1. An application for a minor permit modification need only address in detail those portions of the permit application that require revision, updating, supplementation, or deletion, and may reference any required information that has been previously submitted.

2. The permit shield under ARM 17.8.1214 will not extend to any minor modifications processed pursuant to ARM 17.8.1226.

**J. Changes Not Requiring Permit Revision**
ARM 17.8, Subchapter 12, Operating Permit Program §1224(1)-(3), (5)&(6)

1. The permittee is authorized to make changes within the facility as described below, provided the following conditions are met:

   a. The proposed changes do not require the permittee to obtain a Montana Air Quality Permit under ARM Title 17, Chapter 8, Subchapter 7;

   b. The proposed changes are not modifications under Title I of the FCAA, or as defined in ARM Title 17, Chapter 8, Subchapters 8, 9, or 10;

   c. The emissions resulting from the proposed changes do not exceed the emissions allowable under this permit, whether expressed as a rate of emissions or in total emissions;

   d. The proposed changes do not alter permit terms that are necessary to enforce applicable emission limitations on emission units covered by the permit; and

   e. The facility provides the administrator and the Department with written notification at least 7 days prior to making the proposed changes.

2. The permittee and the Department shall attach each notice provided pursuant to 1.e above to their respective copies of this permit.

3. Pursuant to the conditions above, the permittee is authorized to make 42 USC Sec. 7661a(b)(10) changes, as defined in ARM 17.8.1201(30), without a permit revision. For each such change, the written notification required under 1.e above shall include a description of the change within the source, 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.

4. The permittee may make a change not specifically addressed or prohibited by the permit terms and conditions without requiring a permit revision, provided the following conditions are met:

   a. Each proposed change does not weaken the enforceability of any existing permit conditions;

   b. The Department has not objected to such change;

   c. Each proposed change meets all applicable requirements and does not violate any existing permit term or condition; and

   d. The permittee provides contemporaneous written notice to the Department and the administrator of each change that is above the level for insignificant emission units as defined in ARM 17.8.1201(22) and 17.8.1206(3), and the written notice describes each such change, including the date of the change, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

5. The permit shield authorized by ARM 17.8.1214 shall not apply to changes made pursuant to ARM 17.8.1224(3) and (5), but is applicable to terms and conditions that allow for increases and decreases in emissions pursuant to ARM 17.8.1224(4).

**K. Significant Permit Modifications**
ARM 17.8, Subchapter 12, Operating Permit Program §1227(1), (3)&(4)

1. The modification procedures set forth in 2 below must be used for any application requesting a significant modification of this permit. Significant modifications include the following:

   a. Any permit modification that does not qualify as either a minor modification or as an administrative permit amendment;

   b. Every significant change in existing permit monitoring terms or conditions;

   c. Every relaxation of permit reporting or recordkeeping terms or conditions that limit the Department's ability to determine compliance with any applicable rule, consistent with the requirements of the rule; or

   d. Any other change determined by the Department to be significant.

2. Significant modifications shall meet all requirements of ARM Title 17, Chapter 8, including those for applications, public participation, and review by affected states and the administrator, as they apply to permit issuance and renewal, except that an application for a significant permit modification need only address in detail those portions of the permit application that require revision, updating, supplementation or deletion.

3. The permit shield provided for in ARM 17.8.1214 shall extend to significant modifications.

**L. Reopening for Cause**
ARM 17.8, Subchapter 12, Operating Permit Program §1228(1)&(2)

This permit may be reopened and revised under the following circumstances:

1. Additional applicable requirements under the FCAA become applicable to the facility when the permit has a remaining term of 3 or more years. Reopening and revision of the permit shall be completed not later than 18 months after promulgation of the applicable requirement. No reopening is required under ARM 17.8.1228(1)(a) if the effective date of the applicable

requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms or conditions have been extended pursuant to ARM 17.8.1220(12) or 17.8.1221(2);

2. Additional requirements (including excess emission requirements) become applicable to an affected source under the Acid Rain Program. Upon approval by the administrator, excess emission offset plans shall be deemed incorporated into the permit;

3. The Department or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit; and

4. The administrator or the Department determines that the permit must be revised or revoked and reissued to ensure compliance with the applicable requirements.

**M. Permit Expiration and Renewal**

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(g), §1220(11)&(12), and §1205(2)(d)

1. This permit is issued for a fixed term of 5 years.

2. Renewal of this permit is subject to the same procedural requirements that apply to permit issuance, including those for application, content, public participation, and affected state and administrator review.

3. Expiration of this permit terminates the permittee's right to operate unless a timely and administratively complete renewal application has been submitted to the Department consistent with ARM 17.8.1221 and 17.8.1205(2)(d). If a timely and administratively complete application has been submitted, all terms and conditions of the permit, including the application shield, remain in effect after the permit expires until the permit renewal has been issued or denied.

4. For renewal, the permittee shall submit a complete air quality operating permit application to the Department not later than 6 months prior to the expiration of this permit, unless otherwise specified. If necessary to ensure that the terms of the existing permit will not lapse before renewal, the Department may specify, in writing to the permittee, a longer time period for submission of the renewal application. Such written notification must be provided at least 1 year before the renewal application due date established in the existing permit.

**N. Severability Clause**

ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(i)&(l)

1. The administrative appeal or subsequent judicial review of the issuance by the Department of an initial permit under this subchapter shall not impair in any manner the underlying applicability of all applicable requirements, and such requirements continue to apply as if a final permit decision had not been reached by the Department.

2. If any provision of a permit is found to be invalid, all valid parts that are severable from the invalid part remain in effect. If a provision of a permit is invalid in one or more of its applications, the provision remains in effect in all valid applications that are severable from the invalid applications.

**O. Transfer or Assignment of Ownership**
ARM 17.8, Subchapter 12, Operating Permit Program §1225(2)&(4)

1. If an administrative permit amendment involves a change in ownership or operational control, the applicant must include in its request to the Department a written agreement containing a specific date for the transfer of permit responsibility, coverage and liability between the current and new permittee.

2. The permit shield provided for in ARM17.8.1214 shall not extend to administrative permit amendments.

**P. Emissions Trading, Marketable Permits, Economic Incentives**
ARM 17.8, Subchapter 12, Operating Permit Program §1226(2)

Notwithstanding ARM 17.8.1226(1) and (7), minor air quality operating permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in the Montana State Implementation Plan (SIP) or in applicable requirements promulgated by the administrator.

**Q. No Property Rights Conveyed**
ARM 17.8, Subchapter 12, Operating Permit Program §1210(2)(d)

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

**R. Testing Requirements**
ARM 17.8, Subchapter 1, General Provisions §105

The permittee shall comply with ARM 17.8.105.

**S. Source Testing Protocol**
ARM 17.8, Subchapter 1, General Provisions §106

The permittee shall comply with ARM 17.8.106.

**T. Malfunctions**
ARM 17.8, Subchapter 1, General Provisions §110

The permittee shall comply with ARM 17.8.110.

**U. Circumvention**
ARM 17.8, Subchapter 1, General Provisions §111

The permittee shall comply with ARM 17.8.111.

**V. Motor Vehicles**
ARM 17.8, Subchapter 3, Emission Standards §325

The permittee shall comply with ARM 17.8.325.

**W. Annual Emissions Inventory**

ARM 17.8, Subchapter 5, Air Quality Permit Application, Operation and Open Burning Fees §505 (STATE ONLY)

The permittee shall supply the Department with annual production and other information for all emission units necessary to calculate actual or estimated actual amount of air pollutants emitted during each calendar year. Information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request, unless otherwise specified in this permit. Information shall be in the units required by the Department.

**X. Open Burning**

ARM 17.8, Subchapter 6, Open Burning §604, 605 and 606

The permittee shall comply with ARM 17.8.604, 605 and 606.

**Y. Montana Air Quality Permits**

ARM 17.8, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources §745, and 764 (ARM 17.8.745(1) and 764(1)(b) are STATE ENFORCEABLE ONLY until approval by the EPA as part of the SIP)

1. Except as specified, no person shall construct, install, modify or use any air contaminant source or stack associated with any source without first obtaining a permit from the Department or Board. A permit is not required for the sources or stacks listed in ARM 17.8.745(1)(a)-(k).

2. The permittee shall comply with ARM 17.8.743, 744, 745, 748, and 764.

3. ARM 17.8.745(1) defines de minimis changes as construction or changed conditions of operation at a facility holding a Montana Air Quality Permit (MAQP) issued under Chapter 8 that does not increase the facility's potential to emit by more than 5 tons per year (TPY) of any pollutant, except (STATE ENFORCEABLE ONLY until approved by the EPA as part of the SIP):

    a. Any construction or changed condition that would violate any condition in the facility's existing MAQP or any applicable rule contained in Chapter 8 is prohibited, except as provided in ARM 17.8.745(2);

    b. Any construction or changed conditions of operation that would qualify as a major modification under ARM Title 17, Chapter 8, Subchapters 8, 9 or 10 of Chapter 8;

    c. Any construction or changed condition of operation that would affect the plume rise or dispersion characteristic of emissions that would cause or contribute to a violation of an ambient air quality standard or ambient air increment as defined in ARM 17.8.804;

    d. Any construction or improvement project with a Potential to Emit (PTE) more than 5 TPY may not be artificially split into smaller projects to avoid Montana Air Quality Permitting; and

    e. Emission reductions obtained through offsetting within a facility are not included when determining the potential emission increase from construction or changed conditions of operation, unless such reductions are made federally enforceable.

4. Any facility making a de minimis change pursuant to ARM 17.8.745(1) shall notify the Department if the change would include a change in control equipment, stack height, stack diameter, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1) (STATE ENFORCEABLE ONLY until approval by the EPA as part of the SIP).

**Z. National Emission Standard for Asbestos**
40 CFR, Part 61, Subpart M

The permittee shall not conduct any asbestos abatement activities except in accordance with 40 CFR Part 61, Subpart M (National Emission Standard for Hazardous Air Pollutants for Asbestos).

**AA. Asbestos**
ARM 17.74, Subchapter 3, General Provisions, and Subchapter 4, Fees

The permittee shall comply with ARM Title 17, chapter 74, subchapter 301. and ARM Title 17, Chapter 74, subchapter 4. (State-only)

**BB. Stratospheric Ozone Protection – Servicing of Motor Vehicle Air Conditioners**
40 CFR, Part 82, Subpart B

If the permittee performs a service on motor vehicles and this service involves ozone-depleting substance/refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B.

**CC. Stratospheric Ozone Protection – Recycling and Emission Reductions**
40 CFR, Part 82, Subpart F

The permittee shall comply with the standards for recycling and emission reductions in 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B of that part.

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

2. Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technical certification program pursuant to 40 CFR 82.161.

4. Persons disposing of small appliances, MVACs and MVAC-like (as defined at §82.152) appliances must comply with recordkeeping requirements pursuant to 40 CFR 82.166.

5. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR 82.156.

6. 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 40 CFR 82.166.

## DD. Emergency Episode Plan

The permittee shall comply with the requirements contained in Chapter 9.7 of the State of Montana Air Quality Control Implementation Plan.

Each major source emitting 100 TPY located in a Priority I Air Quality Control Region, shall submit to the Department a legally enforceable Emergency Episode Action Plan (EEAP) that details how the source will curtail emissions during an air pollutant emergency episode. The industrial EEAP shall be in accordance with the Department's EEAP and shall be submitted according to a timetable developed by the Department, following Priority I reclassification.

## EE. Definitions

Terms not otherwise defined in this permit or in the Definitions and Abbreviations Appendix of this permit, shall have the meaning assigned to them in the referenced regulations.

# APPENDICES

## Appendix A INSIGNIFICANT EMISSION UNITS

**Disclaimer:** The information in this appendix is not State or Federally enforceable, but is presented to assist PPLM, the permitting authority, inspectors, and the public.

Pursuant to ARM 17.8.1201(22)(a), an insignificant emission unit means any activity or emissions unit located within a source that: (i) has a PTE less than 5 TPY of any regulated pollutant; (ii) has a PTE less than 500 pounds per year of lead; (iii) has a PTE less than 500 pounds per year of Hazardous Air Pollutants (HAP) listed pursuant to 42 U.S.C. Sec. 7412 (b) of the FCAA; and (iv) is not regulated by an applicable requirement, other than a generally applicable requirement that applies to all emission units subject to ARM Title 17, Chapter 8, subchapter 12.

**List of Insignificant Activities:**

The following table of insignificant sources and/or activities were provided by PPLM.

| Emissions Unit ID | Description |
|---|---|
| IEU01 | Hydrazine Bulk Storage Tank Vent |
| IEU02 | LPG Vaporizer |
| IEU03 | Unit #1 Cooling Tower |
| IEU04 | Unit #2 Cooling tower |
| IEU05 | Unit #3 Cooling Tower |
| IEU06 | Unit #4 Cooling Tower |
| IEU07 | Waste Site |
| IEU08 | Boiler Chemical Cleaning Process |
| IEU09 | LPG System Safety Valves and Vents |
| IEU10 | Process Tank Vents |
| IEU11 | Process Ponds |
| IEU12 | Boiler Chemical Cleaning Process |
| IEU13 | Diesel Tanks |
| IEU14 | Scrubber Relining Process |

## Appendix B DEFINITIONS and ABBREVIATIONS

**"Act"** means the federal Clean Air Act, as amended, 42 U.S.C. §§ 7401-7671.

**"Administrative permit amendment"** means an air quality operating permit revision that:

(a) Corrects typographical errors;

(b) Identifies a change in the name, address or phone number of any person identified in the air quality operating permit, or identifies a similar minor administrative change at the source;

(c) Requires more frequent monitoring or reporting by PPLM;

(d) Requires changes in monitoring or reporting requirements that the Department deems to be no less stringent than current monitoring or reporting requirements;

(e) Allows for a change in ownership or operational control of a source if the Department has determined that no other change in the air quality operating permit is necessary, consistent with ARM 17.8.1225; or

(f) Incorporates any other type of change that the Department has determined to be similar to those revisions set forth in (a)-(e), above.

**"Applicable requirement"** means all of the following as they apply to emission units in a source requiring an air quality operating permit (including requirements that have been promulgated or approved by the Department or the administrator through rule making at the time of issuance of the air quality operating permit, but have future-effective compliance dates, provided that such requirements apply to sources covered under the operating permit):

(a) Any standard, rule, or other requirement, including any requirement contained in a consent decree or judicial or administrative order entered into or issued by the Department, that is contained in the Montana state implementation plan approved or promulgated by the administrator through rule making under Title I of the FCAA;

(b) Any federally enforceable term, condition or other requirement of any Montana Air Quality Permit issued by the Department under ARM Title 17, chapter 8, subchapters 7, 8, 9 and 10, or pursuant to regulations approved or promulgated through rule making under Title I of the FCAA, including Parts C and D;

(c) Any standard or other requirement under 42 U.S.C. Sec. 7411 of the FCAA, including Sec. 7411(d);

(d) Any standard or other requirement under 42 U.S.C. Sec. 7412 of the FCAA, including any requirement concerning accident prevention under 42 U.S.C. Sec. 7412(r)(7), but excluding the contents of any risk management plan required under 42 U.S.C. Sec. 7412(r);

(e) Any standard or other requirement of the acid rain program under Title IV of the FCAA or regulations promulgated thereunder;

(f) Any requirements established pursuant to 42 U.S.C. Sec. 7661c(b) or 42 U.S.C. Sec. 7414(a)(3) of the FCAA;

(g) Any standard or other requirement governing solid waste incineration, under 42 U.S.C. Sec. 7429 of the FCAA;

(h) Any standard or other requirement for consumer and commercial products, under 42 U.S.C. Sec. 7511b(e) of the FCAA;

(i) Any standard or other requirement for tank vessels, under 42 U.S.C. Sec. 7511b(f) of the FCAA;

(j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the FCAA, unless the administrator determines that such requirements need not be contained in an air quality operating permit;

(k) Any national ambient air quality standard or increment or visibility requirement under Part C of Title I of the FCAA, but only as it would apply to temporary sources permitted pursuant to 42 U.S.C. Sec. 7661c(e) of the FCAA; or

(l) Any federally enforceable term or condition of any air quality open burning permit issued by the Department under ARM Title 17, chapter 8, subchapter 6.

**"Department"** means the Montana Department of Environmental Quality.

**"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 42 U.S.C. Sec. 7412(b) of the FCAA. This term is not meant to alter or affect the definition of the term "unit" for purposes of Title IV of the FCAA.

**"FCAA"** means the Federal Clean Air Act, as amended.

**"Federally enforceable"** means all limitations and conditions which are enforceable by the administrator, including those requirements developed pursuant to 40 CFR Parts 60 and 61, requirements within the Montana State Implementation Plan, and any permit requirement established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, including operating permits issued under an EPA approved program that is incorporated into the Montana State Implementation Plan and expressly requires adherence to any permit issued under such program.

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

**"General air quality operating permit"** or **"general permit"** means an air quality operating permit that meets the requirements of ARM 17.8.1222, covers multiple sources in a source category, and is issued in lieu of individual permits being issued to each source.

**"Hazardous air pollutant"** means any air pollutant listed as a hazardous air pollutant pursuant to 42 U.S.C. Sec. 7412(b) of the FCAA.

**"Non-federally enforceable requirement"** means the following as they apply to emission units in a source requiring an air quality operating permit:

(a) Any standard, rule, or other requirement, including any requirement contained in a consent decree, or judicial or administrative order entered into or issued by the Department, that is not contained in the Montana State Implementation Plan approved or promulgated by the administrator through rule making under Title I of the FCAA;

(b) Any term, condition or other requirement contained in any Montana Air Quality Permit issued by the Department under ARM Title 17, chapter 8, subchapters 7, 8, 9 or 10 that is not federally enforceable;

(c) Does not include any Montana ambient air quality standard contained in ARM Title 17, chapter 8, subchapter 2.

**"Operating Day**" means any calendar day (midnight to midnight) in which any fuel is combusted in the unit.

**"Permittee"** means the owner or operator of any source subject to the permitting requirements of this subchapter, as provided in ARM 17.8.1204, that holds a valid air quality operating permit or has submitted a timely and complete permit application for issuance, renewal, amendment, or modification pursuant to this subchapter.

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

(a) Nitrogen oxides or any volatile organic compounds;

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

(c) Any pollutant that is subject to any standard promulgated under 42 U.S.C. Sec. 7411 of the FCAA;

(d) Any Class I or II substance subject to a standard promulgated under or established by Title VI of the FCAA; or

(e) Any pollutant subject to a standard or other requirement established or promulgated under 42 U.S.C. Sec. 7412 of the FCAA, including but not limited to the following:

(i) Any pollutant subject to requirements under 42 U.S.C. Sec. 7412(j) of the FCAA. If the administrator fails to promulgate a standard by the date established in 42 U.S.C. Sec. 7412(e) of the FCAA, 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 in 42 U.S.C. Sec. 7412(e) of the FCAA;

(ii) Any pollutant for which the requirements of 42 U.S.C. Sec. 7412(g)(2) of the FCAA have been met but only with respect to the individual source subject to a 42 U.S.C. Sec. 7412(g)(2) requirement.

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

(a) For a corporation: 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 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:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Department.

(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 (e.g., a regional administrator of the environmental protection agency).

(d) For affected sources: the designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the FCAA or the regulations promulgated thereunder are concerned, and the designated representative for any other purposes under this subchapter.

**Abbreviations:**

| | |
|---|---|
| ARM | Administrative Rules of Montana |
| ASTM | American Society of Testing Materials |
| BACT | Best Available Control Technology |
| BDT | bone dry tons |
| Btu | British thermal unit |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| DEQ | Department of Environmental Quality |
| dscf | dry standard cubic foot |
| dscfm | dry standard cubic foot per minute |
| EEAP | Emergency Episode Action Plan |
| EPA | U.S. Environmental Protection Agency |
| EPA Method | Test methods contained in 40 CFR Part 60, Appendix A |
| EU | emissions unit |
| FCAA | Federal Clean Air Act |
| gr | grains |
| HAP | hazardous air pollutant |
| Hg | mercury |
| IEU | insignificant emissions unit |
| MAQP | Montana Air Quality Permit |
| Mbdft | thousand board feet |
| MEMS | Mercury Emission Monitoring System |
| Method 5 | 40 CFR Part 60, Appendix A, Method 5 |
| Method 9 | 40 CFR Part 60, Appendix A, Method 9 |
| MMbdft | million board feet |
| MMBtu | million British thermal units |
| NOx | oxides of nitrogen |
| $NO_2$ | nitrogen dioxide |
| $O_2$ | oxygen |
| Pb | lead |
| PM | particulate matter |
| PM10 | particulate matter less than 10 microns in size |
| psi | pounds per square inch |
| scf | standard cubic feet |
| SIC | Source Industrial Classification |
| $SO_2$ | sulfur dioxide |
| SOx | oxides of sulfur |
| TPY | tons per year |
| TBtu | trillion British Thermal Units |
| U.S.C. | United States Code |
| VE | visible emissions |
| VOC | volatile organic compound |

## Appendix C NOTIFICATION ADDRESSES

Compliance Notifications:

Montana Department of Environmental Quality
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901
Helena, MT 59620-0901

United States EPA
Air Program Coordinator
Region VIII, Montana Office
10 W. 15th, Suite 3200
Helena, MT 59626

Permit Modifications:

Montana Department of Environmental Quality
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901
Helena, MT 59620-0901

Office of Partnerships and Regulatory Assistance
Air and Radiation Program
US EPA Region VIII 8P-AR
1595 Wynkoop Street
Denver, CO 80202 -1129

## Appendix D AIR QUALITY INSPECTOR INFORMATION

**Disclaimer:** The information in this appendix is not State or Federally enforceable, but is presented to assist PPLM, permitting authority, inspectors, and the public.

1. **Direction to Plant:** The facility is located in Colstrip, Montana and is accessed by traveling south on Highway 39 from I-90 and turning east into the City of Colstrip on Willow Avenue.

2. **Safety Equipment Required:** The following safety guidelines were submitted by PPLM:

**General Safety Guidelines for PPLM Units 1, 2, 3, & 4**

The following are excerpts from the PPLM Employee Safety Handbook. These rules apply to all visitors as well. In all instances, visitors will be escorted by a Company employee.

**Safety Glasses and Hard Hats:** Approved eye protection and company issued hard hats are required while on PPLM Project Division property, except in the following areas;

- Control Rooms
- Rest Rooms
- Lunch Rooms
- Offices
- To and from the parking lots and buildings
- Other areas as posted

**Proper Clothing:** Clothing and shoes, which are suitable for the particular type of work and existing weather conditions, shall be worn. The following should be kept in mind:

- Thin cotton, rayon, or other synthetic materials are highly flammable and will readily ignite.

- Long-sleeved shirts with sleeves rolled down and buttoned provide primary protection from many types of injuries, particularly from burns, electrical contact, irritants, splinters, and scratches.

- Cuffed trousers and short-topped shoes catch and hold hot or corrosive materials, endangering the wearer.

- Special protective clothing and equipment is furnished when required.

- Loose clothing and gloves must not be worn when working around moving machinery. Long sleeves must be rolled down and buttoned tight.

- For all functions involving the use of chemicals outside of the Chem Lab and EED lab, the use of goggles, face shields, chemical/resistant gloves, and chemical suits are required.

- It is mandatory that an acid suit shall be worn during all functions involving acids or caustics.

- Rubber gloves, Tyvek (white suits), or similar suits, rubber boots and vision protection shall be worn during all operations involving lime.

**Protective Footwear:** Shoes of good quality construction, with leather or equivalent material to provide protection from abrasion and punctures, are required.

**Signs:** Special instruction signs are for the safety of employees, visitors, and equipment. These instructions shall be observed at all times:

- Caution Signs (Black and Yellow) – Indicate a possible hazard against which proper precaution should be taken. Caution signs warn against potential hazards or caution against an unsafe practice.
- Danger Signs (Red, Black, and White) – Indicate immediate danger, and special precautions are necessary.
- Safety Instruction Signs (Green and White) – Provide general instructions and for suggestive information.
- Radiation Warning Signs (Reddish Purple and Yellow) – Warn of a radiation hazard only. Special precautions and equipment are necessary.
- Direction Signs (Black and White) – Ensure the safe and efficient flow of vehicles and pedestrian traffic.
- Vision, Hearing and Respiratory Protection Signs, where posted, shall be observed.

**Horseplay** – Scuffling or practical jokes are dangerous and are strictly forbidden.

**Smoking Policy** – Smoking or open flames shall not be permitted in areas where explosive atmospheres might be present, including but not limited to, oil storage rooms, hydrogen areas, coal handling systems, LPG handling and storage facility, and any other area posted as a "NO SMOKING" area. Absence of "NO SMOKING" signs shall not excuse smoking in dangerous places.

**Seat Belts** – Where seat belts are provided in vehicles and equipment, they shall be used at all times while the vehicle or equipment is being operated.

**Drugs and Alcohol** – The use of intoxicating beverages on Company premises is strictly forbidden. The use of any drug on Company property, except those prescribed by a competent medical authority, is strictly forbidden by Company Policy.

3. **Facility Plot Plan:** The facility plot plans were submitted as part of the applications for Operating Permit #OP0513-00 and Operating Permit #OP1187-00.

## Appendix E Opacity CEMS

Nothing in this appendix is intended to alter the requirements in the Acid Rain Appendix.

1. Pursuant to 40 CFR Part 75, PPLM shall calibrate, maintain, and operate continuous monitoring systems.

   Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required pursuant to 40 CFR 60.13(d), 40 CFR Part 75 and the accuracy audits required below, all continuous monitoring systems shall be in continuous operation.

   PPLM shall conduct annual accuracy audits using a calibration jig and NBS-traceable neutral density filters on the continuous monitoring system.

2. PPLM shall maintain records for a minimum of 5 years of the log sheets, computerized data, analysis, and calculations used to prepare the required reports.

3. Compliance with this appendix shall be deemed compliance with the requirements contained in the EPA PSD permit Appendix III issued September 11, 1979.

4. Compliance with this appendix shall be deemed compliance with the requirements contained in MAQP #0513-08, Section II.C.1.e., Section II.C.2., Section II.E.1., and Section II.E.2.

5. PPLM shall submit reports to the Department containing the information required by 40 CFR 60.7 and as required below. The Department is requiring all opacity CEMS reports to be submitted quarterly.

   a. PPLM shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.

   b. PPLM shall submit an excess emissions and monitoring systems performance report and/or a summary report form (see paragraph (c) below) to the Department. Written reports of reportable excess emissions greater than 20% opacity shall include the following information:

      i. The magnitude of excess emissions, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions; and the process operating time during the reporting period.

      ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility; and the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

      iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

      iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

c. The summary report form shall contain the information and be in the format shown in Figure 1. The summary report form shall be submitted:

i. If the total duration of excess emissions for the reporting period is less than 1% of the total operating time for the reporting period and CEMS downtime for the reporting period is less than 5% of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in Section (b) above need not be submitted unless requested.

ii. If the total duration of excess emissions for the reporting period is 1% or greater of the total operating time for the reporting period or the total CEMS downtime for the reporting period is 5% or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Section (b) above shall both be submitted.

Figure 1--Summary Report-- Excess Emission and Monitoring System Performance

Pollutant:
Reporting period dates: From _____ to _____
Emission Limitation:
Monitor Manufacturer and Model No.:
Date of Latest CEMS Certification or Audit:
Process Unit(s) Description:
Total source operating time in reporting period:

**Emission Data Summary**

1. Duration of excess emission in reporting period due to:
   a. Startup/shutdown.
   b. Control equipment problems.
   c. Process problems.
   d. Other known causes.
   e. Unknown causes.

2. Total duration of excess emissions.

3. $\frac{\text{Total duration of excess emissions x (100)}}{\text{Total Boiler Operating Time}}$ = % excess emissions

**CEMS Performance Summary**

1. CEMS downtime in reporting period due to:
   a. Monitor equipment malfunctions.
   b. Non-Monitor equipment malfunctions.
   c. Quality assurance calibrations.
   d. Other known causes.
   e. Unknown causes.

2. Total CEMS Downtime when the boiler is operating (nearest quarter hour).

3. $\frac{\text{Total CEMS downtime when the boiler is operating x 100}}{\text{Total boiler operating time}}$ = % downtime

4. Total boiler operating time (nearest quarter hour).

The quarterly reports must be postmarked by the 30th day after the end of each quarter.

## Appendix F SO2 CEMS

Nothing in this appendix is intended to alter the requirements in the Acid Rain Appendix.

1. Pursuant to 40 CFR Part 75, PPLM shall calibrate, maintain, and operate continuous monitoring systems.

   The monitoring systems shall be capable of determining emissions in the units of the applicable standards.

   Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required pursuant to 40 CFR Part 75, all continuous monitoring systems shall be in continuous operation.

2. Compliance with 40 CFR Part 75 shall be deemed compliance with the requirements contained in 40 CFR 60.13(a) through (c), (e) through (g), and (i) through (j) and with 40 CFR 60.45(c).

3. Compliance with 40 CFR Part 75 and this appendix shall be deemed compliance with the requirements contained in the EPA PSD permit Appendix III issued September 11, 1979.

4. Compliance with 40 CFR Part 75 and this appendix shall be deemed compliance with the requirements contained in MAQP #0513-08, Section II.C.1.e., Section II.C.2., Section II.E.1., and Section II.E.2.

5. PPLM shall maintain, for a minimum of 5 years, records of the log sheets, computerized data, analysis, and calculations used to prepare the required reports.

6. PPLM shall submit reports to the Department containing the information required by 40 CFR 60.7 and as required below. The Department is requiring all $SO_2$ CEMS reports to be submitted quarterly.

   a. PPLM shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.

   b. PPLM shall submit an excess emissions and monitoring systems performance report and/or a summary report form (see Paragraph (c) below) to the Department. Written reports of excess emissions shall be reported in the units of the standard exceeded and shall include the following information:

      i. The magnitude of excess emissions, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions; and the process operating time during the reporting period.

      ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility; and the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

      iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

      iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

c. The summary report form shall contain the information and be in the format shown in Figure 1. The summary report form shall be submitted:

i. If the total duration of excess emissions for the reporting period is less than 1% of the total operating time for the reporting period and CEMS downtime for the reporting period is less than 5% of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in Section (b) above need not be submitted unless requested.

ii. If the total duration of excess emissions for the reporting period is 1% or greater of the total operating time for the reporting period or the total CEMS downtime for the reporting period is 5% or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Section (b) above shall both be submitted.

Figure 1--Summary Report--Gaseous Excess Emission and Monitoring System Performance

Pollutant:
Reporting period dates: From _____ to _____
Emission Limitation:
Monitor Manufacturer and Model No.:
Date of Latest CEMS Certification or Audit:
Process Unit(s) Description:
Total source operating time in reporting period:

**Emission Data Summary**

1. Duration of excess emission in reporting period due to:
   a. Startup/shutdown.
   b. Control equipment problems.
   c. Process problems.
   d. Other known causes.
   e. Unknown causes.

2. Total duration of excess emissions.

3. $\frac{\text{Total duration of excess emissions x (100)}}{\text{Total Boiler Operating Time}}$ = % excess emissions

**CEMS Performance Summary**

1. CEMS downtime in reporting period due to:
   a. Monitor equipment malfunctions.
   b. Non-Monitor equipment malfunctions.
   c. Quality assurance calibrations.
   d. Other known causes.
   e. Unknown causes.

2. Total CEMS Downtime when the boiler is operating (nearest quarter hour).

3. $\frac{\text{Total CEMS downtime when the boiler is operating x 100}}{\text{Total boiler operating time}}$ = % downtime

4. Total boiler operating time (nearest quarter hour).

The quarterly reports must be postmarked by the 30th day after the end of each quarter.

7. PPLM shall submit quarterly reports to the Department containing the following information for each month of the quarter:

   a. Tons of emissions calculated as the sum of $E_h = K \times C_h \times Q_h$ where $E_h$ = emission rate (lb/hr), $K = 1.66 \times 10^{-7}$ (lb/scf)/ppm ($SO_2$), $C_h$ = Measured Pollutant Concentration ($ppm_{wet}$), and $Q_h$ = Measured Stack Gas Flow Rate ($SCFH_{wet}$); and

   b. A summary report including the information identified in 40 CFR 75.64 (a)(2) in writing that includes:

      Tons (rounded to the nearest tenth) of $SO_2$ emitted during the quarter and cumulative $SO_2$ emissions for calendar year.

   The quarterly reports must be postmarked by the 30th day after the end of the calendar quarter.

8. PPLM shall submit copies of all RATAs performed to the Department in accordance with ARM 17.8.106, Source Testing Protocol.

9. PPLM shall submit copies of each monitoring plan revision that results in the need to recertify the CEMS.

## Appendix G NOx CEMS

Nothing in this appendix is intended to alter the requirements in the Acid Rain Appendix.

1. Pursuant to 40 CFR Part 75, PPLM shall calibrate, maintain, and operate continuous monitoring systems.

   The monitoring systems shall be capable of determining emissions in the units of the applicable standards.

   Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required pursuant to 40 CFR Part 75, all continuous monitoring systems shall be in continuous operation.

2. Compliance with 40 CFR Part 75 shall be deemed compliance with the requirements contained in 40 CFR 60.13(a) through (c), (e) through (g), and (i) through (j) and 40 CFR 60.45(c).

3. Compliance with 40 CFR Part 75 and this appendix shall be deemed compliance with the requirements contained in the EPA PSD permit Appendix III issued September 11, 1979.

4. Compliance with 40 CFR Part 75 and this appendix shall be deemed compliance with the requirements contained in MAQP #0513-08, Section II.C.1.e., Section II.C.2., Section II.E.1., and Section II.E.2.

5. PPLM shall conduct a "Standard Practice for Ultimate Analysis of Coal and Coke", ASTM D3176-89 (Reapproved 2002), at a minimum of once per year for each fuel used.

6. PPLM shall determine the gross calorific value (GCV) of the fuels using ASTM D2015-91, "Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter" or other method as identified in 40 CFR Part 75, Appendix F, 3.3.6.2, at a minimum of once per year for each fuel used.

7. PPLM shall conduct a weekly fuel analysis using ASTM D4239-85 or other method approved by the Department.

8. PPLM shall maintain records for a minimum of 5 years of the log sheets, computerized data, analysis, and calculations used to prepare the required reports.

9. PPLM shall submit reports to the Department containing the information required by 40 CFR 60.7 and as required below. The Department is requiring all $NO_x$ CEMS reports to be submitted quarterly.

   a. PPLM shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.

   b. PPLM shall submit an excess emissions and monitoring systems performance report and/or a summary report form (see paragraph (c) below) to the Department. Written reports of excess emissions shall be reported in the units of the standard exceeded and shall include the following information:

i. The magnitude of excess emissions, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions; and the process operating time during the reporting period.

ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility; and the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

c. The summary report form shall contain the information and be in the format shown in Figure 1. The summary report form shall be submitted

i. If the total duration of excess emissions for the reporting period is less than 1% of the total operating time for the reporting period and CEMS downtime for the reporting period is less than 5% of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in Section (b) above need not be submitted unless requested.

ii. If the total duration of excess emissions for the reporting period is 1% or greater of the total operating time for the reporting period or the total CEMS downtime for the reporting period is 5% or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Section (b) above shall both be submitted.

Figure 1--Summary Report--Gaseous Excess Emission and Monitoring System Performance

Pollutant:
Reporting period dates: From _____ to _____
Emission Limitation:
Monitor Manufacturer and Model No.:
Date of Latest CEMS Certification or Audit:
Process Unit(s) Description:
Total source operating time in reporting period:

**Emission Data Summary**

1. Duration of excess emission in reporting period due to:
   a. Startup/shutdown.
   b. Control equipment problems.
   c. Process problems.
   d. Other known causes.
   e. Unknown causes.

2. Total duration of excess emissions.

3. $\frac{\text{Total duration of excess emissions x (100)}}{\text{Total Boiler Operating Time}}$ = % excess emissions

**CEMS Performance Summary**

1. CEMS downtime in reporting period due to:
   a. Monitor equipment malfunctions.
   b. Non-Monitor equipment malfunctions.
   c. Quality assurance calibrations.
   d. Other known causes.
   e. Unknown causes.

2. Total CEMS Downtime when the boiler is operating (nearest quarter hour).

3. $\frac{\text{Total CEMS downtime when the boiler is operating x 100}}{\text{Total boiler operating time}}$ = % downtime

4. Total boiler operating time (nearest quarter hour).

The quarterly reports must be postmarked by the 30th day after the end of each quarter.

10. PPLM shall submit quarterly reports to the Department containing the following information for each month of the quarter:

    a. Monthly average coal analysis;

    b. Coal consumption;

    c. Other fuels combusted and the amount;

    d. Tons of emissions calculated as the sum of $E_h = K \times C_h \times Q_h$ where $E_h$ = emission rate (lb/hr), $K = 1.19 \times 10^{-7}$ (lb/scf)/ppm (NOx), $C_h$ = Measured Pollutant Concentration ($ppm_{wet}$), and $Q_h$ = Measured Stack Gas Flow Rate ($SCFH_{wet}$); and

e. A summary report including the information identified in 40 CFR 75.64 (a)(3) through (5) in writing which includes:

i. Average NOx emission rate (lb/mmBtu, rounded to the nearest hundredth) during the quarter and cumulative NOx emission rate for calendar year.

ii. Tons of $CO_2$ emitted during quarter and cumulative $CO_2$ for calendar year.

iii. Total heat input (mmBtu) for quarter and cumulative heat input for calendar year.

The quarterly reports must be postmarked by the 30th day after the end of the calendar quarter.

11. PPLM shall submit copies of all RATAs performed to the Department in accordance with ARM 17.8.106, Source Testing Protocol.

12. PPLM shall submit copies of each monitoring plan revision that results in the need to a recertify the CEMS.

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Expires 1-31-96

# Phase II Permit Application

Page 1

For more information, see instructions and refer to 40 CFR 72.30 and 72.31

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

| Plant Name | State | ORIS Code |
|---|---|---|
| Colstrip Units #1 and #2 | MT | 6076 |

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

| a | b | c | d | e |
|---|---|---|---|---|
| | Compliance Plan | | | |
| Boiler ID# | Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1) | Repowering Plan | New Units<br>Commence Operation Date | New Units<br>Monitor Certification Deadline |
| 000001 | Yes | No | | |
| 000002 | Yes | No | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

EPA Form 7610-16 (rev. 12-94; previous versions obsolete)

Colstrip Units #1 and #2
Plant Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

Standard Requirements

Permit Requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:
(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
(2) The owners and operators of each affected source and each affected unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
(ii) Have an Acid Rain Permit.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each affected unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

EPA Form 7610-16 (rev. 12-94; previous versions obsolete)

| Colstrip Units #1 and #2 |
|---|
| Plant Name (from Step 1) |

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 ($NO_x$ averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided,* that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

| Carlton D. Grimm | |
|---|---|
| Name | |
| Signature | December 20, 1995 |
| | Date |

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

| AIRS |
|---|
| FINDS |

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United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Expires 1-31-96

# Phase II Permit Application



For more information, see instructions and refer to 40 CFR 72.30 and 72.31

This submission is: [X] New [ ] Revised

STEP 1
Identify the source by plant name, State, and ORIS code from NADB

| Plant Name | State | ORIS Code |
|---|---|---|
| Colstrip Units #3 and #4 | MT | 6076 |

STEP 2
Enter the boiler ID# from NADB for each affected unit, and indicate whether a repowering plan is being submitted for the unit by entering "yes" or "no" at column c. For new units, enter the requested information in columns d and e

| a | b | c | d | e |
|---|---|---|---|---|
| Boiler ID# | Compliance Plan: Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1) | Compliance Plan: Repowering Plan | New Units: Commence Operation Date | New Units: Monitor Certification Deadline |
| 000003 | Yes | No | | |
| 000004 | Yes | No | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |
| | Yes | | | |

STEP 3
Check the box if the response in column c of Step 2 is "Yes" for any unit

[ ] For each unit that will be repowered, the Repowering Extension Plan form is included and the Repowering Technology Petition form has been submitted or will be submitted by June 1, 1997.

EPA Form 7610-16 (rev. 12-94; previous versions obsolete)

Colstrip Units #3 and #4
Plant Name (from Step 1)

STEP 4
Read the standard requirements and certification, enter the name of the designated representative, and sign and date

**Standard Requirements**

Permit Requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:
(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
(2) The owners and operators of each affected source and each affected unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
(ii) Have an Acid Rain Permit.

Monitoring Requirements.

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

(1) The owners and operators of each source and each affected unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(i) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

EPA Form 7610-16 (rev. 12-94; previous versions obsolete)

| Colstrip Units #3 and #4 |
|---|
| Plant Name (from Step 1) |

Recordkeeping and Reporting Requirements (cont.)

(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 ($NO_x$ averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

| Carlton D. Grimm | |
|---|---|
| Name | |
| Carlton D. Grimm | December 2, 1995 |
| Signature | Date |

STEP 5 (optional)
Enter the source AIRS and FINDS identification numbers, if known

| AIRS |
|---|
| FINDS |

EPA Form 7610-16 (rev. 12-94; previous versions obsolete)

## Appendix I Compliance Assurance Monitoring Plan

### 1. Background:

#### a. Emissions Unit Identification

PPL Montana, LLC
Colstrip Steam Electric Station (CSES)
Rosebud County
Colstrip, Montana
ORSIPL # 6076

| Identification | Description | Primary NAICS Code | EPA FINDS # |
|---|---|---|---|
| CSES Unit 1 | Tangential Coal-Fired Boiler | 221112 | MTD000710236 |
| CSES Unit 2 | Tangential Coal-Fired Boiler | 221112 | MTD000710236 |
| CSES Unit 3 | Tangential Coal-Fired Boiler | 221112 | MTD000710236 |
| CSES Unit 4 | Tangential Coal-Fired Boiler | 221112 | MTD000710236 |

#### b. Applicable Regulations, Emission Limits, and Monitoring Requirements

| Unit | Regulations | Opacity | | Particulate | |
|---|---|---|---|---|---|
| | | Emission Limit | Compliance Method | Emission Limit | Compliance Method |
| 1 | 40 CFR Part 60, Subparts A & D | 20% (6-min. Avg) | COMS | 0.10 lb/MMBtu | 3-run RM5 Test |
| 2 | 40 CFR Part 60, Subparts A & D | 20% (6-min. Avg) | COMS | 0.10 lb/MMBtu | 3-run RM5 Test |
| 3 | 40 CFR Part 60, Subparts A & D, 40 CFR 52.21, ARM 17.8.710 | 20% (6-min. Avg) | COMS | 0.05 lb/MMBtu & 379 lb/Hr | 3-run RM5 Test |
| 4 | 40 CFR Part 60, Subparts A & D, 40 CFR 52.21, ARM 17.8.710 | 20% (6-min. Avg) | COMS | 0.05 lb/MMBtu & 379 lb/Hr | 3-run RM5 Test |

#### c. Control Technology Description

**Colstrip Units 1 & 2**

The scrubbers at Colstrip Units 1 & 2 are three-vessel venturi and spray absorber systems. During normal full load operations all three scrubber vessels are in service, each one treating about 1/3 of the flue gas.

The flue gas enters the scrubber vessel and is accelerated by the converging surfaces of the plumb bob and venturi bowl. The flue gas and slurry meet in the venturi throat where turbulence atomizes the slurry. Acceleration of the flue gas causes particulate to collide with and be absorbed by slurry droplets.

The majority of fly ash particulate and most of the $SO_2$ are removed in the venturi section. The throat area of the venturi is adjusted by moving the plumb bob up or down to obtain the desired pressure drop across the plumb bob of each scrubber. The flue gas

velocity caused by this pressure drop ensures optimum fly ash removal. The slurry and collected fly ash are separated from the flue gas as it turns up to enter the absorption spray area.

The flue gas enters the absorption spray area in the annular space between the downcomer and the shell of the scrubber vessel. The flue gas is contacted with recycle slurry for additional removal of $SO_2$. Above the absorption section is a wash tray which uses recirculation water to contact the flue gas and remove entrained recycle slurry from the flue gas.

The flue gas then flows through the mist eliminator where entrained water droplets are removed.

After being treated, the flue gas exits the scrubber vessels. The treated gas is raised in temperature as it passes through a steam reheater and then discharged to the stack through the induced draft fan.

**Colstrip Units 3 & 4**

There are eight wet venturi scrubber vessels on each unit. Six to seven vessels are used during normal full load operations. A typical Units 3 & 4 scrubber vessel is illustrated in IC-2.

The flue gas enters the scrubber vessel and is accelerated by the converging surfaces of the plumb bob and venturi bowl. The flue gas and slurry meet in the venturi throat where turbulence atomizes the slurry. Acceleration of the flue gas causes particulate to collide with and be absorbed by slurry droplets.

The majority of fly ash particulate and most of the $SO_2$ are removed in the venturi section. The throat area of the venturi is adjusted by moving the plumb bob up or down to obtain the desired pressure drop across the plumb bob of each scrubber. The flue gas velocity caused by this pressure drop ensures optimum fly ash removal. The slurry and collected fly ash are separated from the flue gas as it turns up to enter the absorption spray area.

The flue gas enters the absorption spray area in the annular space between the downcomer and the shell of the scrubber vessel. The flue gas is contacted with recycle slurry for additional removal of $SO_2$. Above the absorption section is a wash tray which uses recirculation water to contact the flue gas and remove entrained recycle slurry from the flue gas.

The flue gas then flows through the mist eliminator where entrained water droplets are removed.

After being treated, the flue gas exits the scrubber vessels. The treated gas is raised in temperature as it passes through a steam reheater and then discharged to the stack through the induced draft fan.

## 2. Particulate CAM Plan Approach and Performance Indicators

| Monitoring Approach for PM for Units 1-4 | | |
|---|---|---|
| **Monitoring Indicator** | **Performance Indicator Range** | **Monitoring Method** |
| Opacity | Daily Average <20% | COM/Continuous |
| Plumb Bob ΔP | Plumb Bob ΔP >17 inches water column | Plant Control Room Operator Monitor/Continuous |
| Venturi Spray System | Periods of scrubber operation without the venturi sprays < 1 hour | Plant Control Room Operator Monitor/Continuous |

**Opacity**

Opacity is a key performance indicator for assuring compliance with the PM limit. Opacity is measured in the stack on a continuous basis by an opacity monitor installed on the stack. This monitor is a double-pass, two detector in-situ analyzer that utilizes an electronically modulated intensity-controlled solid state LED to ensure stable operation. Basic system components include the transmissometer, the retroreflector and control unit in the stack; and remote readout that accompanies the B&W-Enertec Data Acquisition and Handling System (DAHS) in the plant control room. Percent opacity data is recorded as minute averages in the DAHS. Six-minute, hourly, and daily opacity averages are calculated utilizing the base minute data. As stated in the PPLM CEMS QA Plan, daily COMs calibration drift checks are conducted and quarterly opacity accuracy audits are conducted. PM emissions will be considered to be in compliance with the applicable limits when the opacity is ≤ 20% as measured on a daily average. As a note, one six-minute period per hour of up to 27% opacity is allowed. Data regarding opacity monitoring is reported on a quarterly basis unless required otherwise during any excursion as required by Section V.E. of the permit. The Daily Average Opacity indicator is based on;

1. Annual performance tests have indicated that the PM standard is met when opacity is ≤ 20%. These Reference Method 5 performance tests consist of three runs conducted in a day.

2. Opacity has never exceeded 20% during a Colstrip Units 1-4 PM compliance test that demonstrated compliance with the particulate standard; therefore, it is appropriate to use a 20% daily opacity indicator as assurance that the units are in compliance with the applicable PM emission limits. Annual PM compliance testing has been conducted on Colstrip Units 1-4 since their initial commercial operations. The average results of these tests since the last revision to the CAM plan are presented in the following table.

**PPL Montana Colstrip Units 1-4**
**Stack Particulate Emissions Tests**
**EPA Method 5B**

| Unit | Date | lb./MMBtu | lb./Hr. | %Opacity |
|---|---|---|---|---|
| 1 | 05/27/04 | 0.026 | 95.2 | NA |
| | 04/15/05 | 0.042 | 139.9 | 14.0 |
| | 05/11/06 | 0.042 | 129.5 | 16.2 |
| | 05/02/07 | 0.049 | 157.6 | 15.3 |
| | 05/01/08 | 0.035 | 117.8 | 16.1 |
| | 04/22/09 | 0.034 | 110.9 | 17.8 |
| | 07/07/10 | 0.031 | 100.3 | 16.0 |
| | 10/19/11 | 0.027 | 91.6 | 17.3 |

| Unit | Date | lb./MMBtu | lb./Hr. | %Opacity |
|---|---|---|---|---|
| 2 | 06/14/04 | 0.058 | 208.3 | NA |
| | 04/20/05 | 0.045 | 147.0 | 15.9 |
| | 05/24/06 | 0.042 | 139.6 | 16.6 |
| | 04/25/07 | 0.060 | 189.3 | 18.0 |
| | 08/27/08 | 0.025 | 77.7 | 17.1 |
| | 04/29/09 | 0.033 | 111.2 | 18.0 |
| | 06/02/10 | 0.026 | 82.6 | 16.3 |
| | 10/27/11 | 0.037 | 118.5 | 18.0 |
| 3 | 09/15/04 | 0.035 | 276.9 | NA |
| | 04/07/05 | 0.033 | 255.0 | 17.4 |
| | 07/06/06 | 0.034 | 262.1 | 16.5 |
| | 07/19/07 | 0.024 | 186.0 | 15.3 |
| | 05/14/08 | 0.020 | 149.8 | 13.1 |
| | 05/06/09 | 0.018 | 133.5 | 15.6 |
| | 05/05/10 | 0.022 | 168.3 | 16.2 |
| | 03/17/11 | 0.020 | 155.2 | 14.1 |
| 4 | 06/30/04 | 0.044 | 306.8 | NA |
| | 02/16/05 | 0.034 | 254.4 | 16.6 |
| | 11/10/05 | 0.032 | 245.8 | 17.3 |
| | 04/05/06 | 0.029 | 210.6 | 14.3 |
| | 10/11/06 | 0.030 | 224.7 | 16.2 |
| | 04/18/07 | 0.032 | 243.8 | 12.4 |
| | 04/22/08 | 0.035 | 254.8 | 16.9 |
| | 11/24/09 | 0.022 | 169.9 | 17.5 |
| | 05/12/10 | 0.019 | 140.1 | 14.6 |
| | 04/07/11 | 0.031 | 237.5 | 17.7 |

**Scrubber Plumb Bob Pressure Drop (ΔP)**

A review of historical plumb bob ΔP indicates that operation of the scrubbers with plumb bob ΔP greater than 17 inches water column helps ensure compliance with the particulate standard. The control room operators monitor scrubber plumb bob ΔP on a regular basis to ensure proper operation and will take corrective action as needed to make sure the scrubber is operating at the proper plumb bob ΔP conditions. A daily average of the operating scrubber plumb bob ΔP's below 17 inches water column will be reported in the quarterly report as a CAM plan excursion.

**Scrubber Venturi Sprays**

The venturi spray system is designed so that when the pumps are operating, the proper spray flow is provided to the venturi section of the scrubbers. The control room operators monitor venturi spray operation on a regular basis to ensure proper scrubber operation. A venturi spray pump shutdown will alarm in the control room which helps the operator take corrective action immediately to make sure the scrubber is operating as designed. Periods of scrubber operation without the venturi sprays are expected to be infrequent and for short periods of time. Periods of individual scrubber operation without venturi sprays for more than 1 hour will be reported in the quarterly report as a CAM plan excursion.

## Appendix J Mercury Emissions Monitoring System (MEMS)

(These requirements are "State Only")

MEMS

a. For each Unit 1-4, PPLM shall install, calibrate, certify, maintain, and operate an MEMS to monitor and record the rate of mercury emissions discharged into the atmosphere from all mercury emitting generating units (units) as defined in the Administrative Rules of Montana 17.8.740.

   (1) The MEMS shall be comprised of equipment as required in 40 CFR 75.81(a) and defined in 40 CFR 72.2.

   (2) The MEMS shall conform to all applicable requirements of 40 CFR Part 75.

   (3) The MEMS data will be used to demonstrate compliance with the emission limitations contained in Section III.L.1.

b. PPLM shall prepare, maintain and submit a written MEMS Monitoring Plan to the Department.

   (1) The monitoring plan shall contain sufficient information on the MEMS and the use of data derived from these systems to demonstrate that all the gaseous mercury stack emissions from each unit are monitored and reported.

   (2) Whenever PPLM makes a replacement, modification, or change in a MEMS or alternative monitoring system under 40 CFR Part 75 subpart E, including a change in the automated data acquisition and handling system (DAHS) or in the flue gas handling system, that affects information reported in the monitoring plan (e.g. a change to a serial number for a component of a monitoring system), then the owner or operator shall update the monitoring plan.

   (3) If any monitoring plan information requires an update pursuant to Section b.(2), submission of the written monitoring plan update shall be completed prior to or concurrent with the submittal of the quarterly report required in c. below for the quarter in which the update is required.

   (4) The initial submission of the Monitoring Plan to the Department shall include a copy of a written Quality Assurance/Quality Control (QA/QC) Plan as detailed in 40 CFR Part 75 Appendix B, Section 1. Subsequently, the QA/QC Plan need only be submitted to the Department when it is substantially revised. Substantial revisions can include items such as changes in QA/QC processes resulting from rule changes, modifications in the frequency or timing of QA/QC procedures, or the addition/deletion of equipment or procedures.

   (5) The Monitoring Plan shall include, at a minimum, the following information:

      (a) Facility summary including:

         (i) A description of each mercury-emitting generating unit at the facility.

         (ii) Maximum and average loads (in megawatts (MW)) with fuels combusted and fuel flow rates at the maximum and average loads for each unit.

         (iii) A description of each unit's air pollution control equipment and a description of the physical characteristics of each unit's stack.

(b) Mercury emission control summary including a description of control strategies, equipment, and design process rates.

(c) MEMS description, including:

(i) Identification and description of each monitoring component in the MEMS including manufacturer and model identifications; monitoring method descriptions; and normal operating scale and units descriptions. Descriptions of stack flow, diluent gas, and moisture monitors (if used) in the system must be described in addition to the mercury monitor or monitors.

(ii) A description of the normal operating process for each monitor including a description of all QA/QC checks.

(iii) A description of the methods that will be employed to verify and maintain the accuracy and precision of the MEMS calibration equipment.

(iv) Identification and description of the DAHS, including major hardware and software components, conversion formulas, constants, factors, averaging processes, and missing data substitution procedures.

(v) A description of all initial certification and ongoing recertification tests and frequencies; as well as all accuracy auditing tests and frequencies.

(d) The Maximum Potential Concentration (MPC), Maximum Expected Concentration (MEC), span value, and range value as applicable and as defined in 40 CFR Part 75 Appendix A, 2.1.7.

(e) Examples of all data reports required in c. below.

c. PPLM shall submit written, Quarterly Mercury Monitoring Reports. The reports shall be received by the Department within 30 days following the end of each calendar quarter, and shall include, at a minimum, the following:

(1) Mercury emissions. The reports shall include:

(a) For each Unit 1-4, the monthly average lb/TBtu mercury emission rate for each month of the quarter;

(b) For each Unit 1-4, the 12-month rolling average lb/TBtu emission rate for each month of the reporting quarter. The rolling 12-month basis is an average of the last 12 individual calendar monthly averages, with each monthly average calculated at the end of each calendar month; and

(c) For each Unit 1-4, the total heat input to the boiler (in TBtu) for each 12-month rolling period of the quarter.

(d) The 12-month facility-wide rolling average lb/TBtu mercury emission rate, calculated according to Section III.L.1, for each month of the quarter.

(2) Mercury excess emissions. The report shall describe the magnitude of excess mercury emissions experienced during the quarter, including:

(a) The date and time of commencement and completion of each period of excess emissions. Periods of excess emissions shall be defined as those emissions calculated on a rolling 12-month basis which are greater than the limitation established in Section III.L.1.

(b) The nature and cause of each period of excess emissions and the corrective action taken or preventative measures adopted in response.

(c) If no periods of excess mercury emissions were experienced during the quarter, the report shall state that information.

(3) MEMS performance. The report shall describe:

(a) The number of operating hours that the MEMS was unavailable or not operating within quality assurance limits (monitor downtime) during the reporting quarter, broken down by the following categories:

- Monitor equipment malfunctions;
- Non-Monitor equipment malfunctions;
- Quality assurance calibration;
- Other known causes; and
- Unknown causes.

(b) The percentage of unit operating time that the MEMS was unavailable or not operating within quality assurance limits (monitor downtime) during the reporting quarter. The percentage of monitor downtime in each calendar quarter shall be calculated according to the following formula:

$$MEMSDowntime\% = \left( \frac{MEMSDownHours}{OpHours} \right) \times 100 \quad \text{where}$$

MEMSDowntime% = Percentage of unit operating hours classified as MEMS monitor downtime during the reporting quarter.

MEMSDownHours = Total number of hours of MEMS monitor downtime during the reporting quarter.

OpHours = Total number of hours the unit operated during the reporting quarter.

(c) For any reporting quarter in which monitor downtime exceeds 10%, a description of each time period during which the MEMS was inoperative or operating in a manner defined in 40 CFR Part 75 as "out of control." Each description must include the date, start and end times, total downtime (in hours), the reason for the system downtime, and any necessary corrective actions that were taken. In addition, the report shall describe the values used for any periods when missing data substitution was necessary as detailed in 40 CFR 75.30.

(4) The quarterly report shall include the results of any QA/QC audits, checks, or tests conducted to satisfy the requirements of 40 CFR Part 75 Appendices A, B or K.

(5) Compliance certification. Each quarterly report shall contain a certification statement signed by the facility's responsible official based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall indicate:

(a) Whether the monitoring data submitted were recorded in accordance with the applicable requirements of 40 CFR Part 75 including the QA/QC procedures and specifications of that part and its appendices, and any such requirements, procedures and specifications of an applicable excepted or approved alternative monitoring method as represented in the approved Monitoring Plan.

(b) That for all hours where data are substituted in accordance with 40 CFR 75.38, the add-on mercury emission controls were operating within the range of parameters listed in the quality-assurance plan for the unit, and that the substitute values do not systematically underestimate mercury emissions.

(6) The format of each component of the quarterly report may be negotiated with the Department's representative to accommodate the capabilities and formats of the facility's DAHS.

(7) Each quarterly report must be received by the Department within 30 days following the end of each calendar reporting period (January-March, April-June, July-September, and October-December).

(8) The electronic data reporting detailed in 40 CFR Part 75 shall not be required unless Montana is able to receive and process data in an electronic format.

d. PPLM shall maintain a file of all measurements and performance testing results from the MEMS; all MEMS performance evaluations; all MEMS or monitoring device calibration checks and audits; and records of all adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained on site for at least 5 years following the date of such measurements and reports. PPLM shall make these records available for inspection by the Department and shall supply these records to the Department upon request.