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

August 10, 2012

James M. Parker, PE
PPL Montana, LLC
JE Corette Steam Electric Station
303 N Broadway, Suite 400
Billings, MT 59101

RE: Draft Title V Operating Permit #OP2953-07

Dear Mr. Parker:

The Department of Environmental Quality has prepared the enclosed Draft Operating Permit #OP2953-07, for PPL Montana, LLC, JE Corette Steam Electric Station, located in Section 2, Township 1 South, Range 26 East, Yellowstone County, Montana. An application for an Operating Permit renewal was received by the Department on April 16, 2010, and Draft Operating Permit #OP2953-06 was issued for public comment on May 16, 2011. Due to substantive revisions to the plan for Compliance Assurance Monitoring (CAM), the Department determined that the Draft Operating Permit should be reissued.

The issuance of the Draft Operating Permit #OP2953-07 addresses the CAM plan revisions, and summarizes the public comments received and the associated Department responses. Please review the cover page of the attached permit for information pertaining to the action taking place on Permit #OP2953-07.

If you have any questions, please contact Vickie Walsh, the permit writer, at (406) 444-9741 or by email at viwalsh@mt.gov.

Sincerely,

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

Vickie Walsh
Environmental Engineer
Air Resources Management Bureau
(406) 444-9741

CH: VW
Enclosure

cc: DJ Law, US EPA Region VIII 8P-AR
Stephen J. Christian, PPLM Montana, LLC, Alternative Responsible Official
Tom Olson, PPLM Montana, LLC, Facility Contact Person
Jay Littlewolf, Air Quality Administrator, Environmental Protection Department, Tse' tsehestahese
Myron Shield, Apsaalooke Environmental Department
Lori Bocchino, Operating Permit Program Manager, Wyoming DEQ
Tom Bachman, ND Department of Health, Division of Air Quality
Brian Gustafson, Administrator, SD DENR

State of Montana
Department of Environmental Quality
Helena, Montana 59620

**AIR QUALITY OPERATING PERMIT NUMBER OP2953-07**

Renewal Application Received: April 16, 2010
Application Deemed Administratively Complete: May 17, 2010
Application Deemed Technically Complete: June 15, 2010
AFS Number: 030-111-0015A

Draft Issue Date #OP2953-06: May 16, 2011
Draft Issue Date #OP2953-07: August 10, 2012
Proposed Issue Date:
End of EPA 45-day Review:
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, ARM 17.8.1201, *et seq*.,

**PPL Montana, LLC – JE Corette Steam Electric Station**
**Section 2, Township 1 South, Range 26 East, Yellowstone County, Montana**
**301 Charlene Street**
**Billings, MT 59107**

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, 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 that are only state enforceable are identified in the permit. A copy of this permit must be kept on site at the above-named facility.

**Permit Issuance and Appeal Processes:** In accordance with ARM 17.8.1232, the Department of Environmental Quality (Department) is providing a 30-day public comment period from August 10, 2012, to September 10, 2012, to accept comments on this draft permit. Any member of the public, including representatives of the facility, desiring to comment on this draft permit must submit all comments to the Department by September 10, 2012, to be considered. Comments may address the Department analysis and determination or information submitted by the applicant. A public hearing regarding issuance of this permit may be requested by submitting a written request to the Department within the public comment period. The Department intends to issue the proposed operating permit after the comment period has expired and after any required public hearing. The proposed permit will be sent to the United States Environmental Protection Agency (EPA). The EPA is allowed a 45-day comment 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 the 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. 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 regulations.

## SECTION I. GENERAL INFORMATION

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

**Company Name**: PPL Montana, LLC (PPLM)

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

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

**Plant Name:** JE Corette Steam Electric Station

**Plant Location**: Section 2, Township 1South, Range 26East, Yellowstone County, Montana
301 Charlene Street, Billings, Montana

**Plant Mailing Address**: 303 N Broadway, Suite 400, Billings. MT 59101

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

**Facility Contact Person**: Tom Olson **Phone:** (406) 896-4704

**Facility Technical Contact:** Stephen J. Christian **Phone**: (406) 748-5019

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

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

**Description of Process**: A tangential coal-fired boiler 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):

| Emissions Unit ID | Description | Pollution Control Device/Practice |
|---|---|---|
| EU1 | Ash Handling System | Dust collection equipment: dustless ash loading system, or contained railcars and trucks |
| EU2 | Auxiliary Boiler | None |
| EU3 | Coal Handling System | Dust suppression chemicals (foam);Water on Conveyor # 3; covered conveyors, telescopic chute; or dust collectors |
| EU4 | Coal Storage Piles | Sealant (dead storage piles) and water and dust suppressant application (active piles) |
| EU5 | Gasoline Storage Tank | None |
| EU7 | J.E. Corette Boiler | Electrostatic Precipitator, Oxidizer/Sorbent Injection |
| EU8 | Plant Roads | Washed and cleaned with dust suppressant, water application |
| EU9 | Process Ponds | Wet material |
| EU10 | Diesel Tank | None |
| EU11 | Mercury Oxidizer/Sorbent Handling System | 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 Plan | Submittal |
| A.15 | ARM 17.8.1211(1)(c) and 40 CFR Part 98 | Greenhouse Gas Reporting | Reporting | ------- |
| A.16 | SIP | SIP | Sulfur Bearing Gases | |
| A.17 | ARM 17.8.1212 | Reporting Requirements | Prompt Deviation Reporting | ------- |
| A.18 | ARM 17.8.1212 | Reporting Requirements | Compliance Monitoring | ------- |
| A.19 | ARM 17.8.1207 | Reporting Requirements | Annual Certification | ------- |

### Conditions

A.1. Pursuant to ARM 17.8.105, any person or persons responsible for the emission 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 tests, 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 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 particulate matter. 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.7. Pursuant to ARM 17.8.309, unless otherwise specified by rule or in this permit, PPLM shall not cause or authorize particulate matter 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 particulate matter 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 particulate matter to be discharged from any operation, process, or activity into the outdoor atmosphere in excess of the maximum hourly allowable emissions of particulate matter 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 one (1) pound per MMBtu fired, unless otherwise specified by rule or in this permit. This rule shall be interpreted to allow for a daily deviation of 0.1 pound of sulfur per MMBtu fired. The rule shall be interpreted to allow the blending of all fuels burned in a plant during a given time period in determining the aggregate sulfur content for purposes of the rule, and it shall not be construed to require blending or physical mixing of fuels at any given furnace or heater within the plant complex (April 1978 Billings/Laurel Plan that included the Board of Health and Environmental Sciences Order).

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. 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.16. PPLM shall utilize appropriate maintenance, repair, and operating practices to control emissions of sulfur bearing gases from minor sources such as ducts, stacks, valves, vents, vessels, and flanges that are not otherwise covered in the $SO_2$ SIP Appendix (Billings/Laurel $SO_2$ Control Plan approved into the SIP by EPA on May 2, 2002).

A.17. 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.18. 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.19. By February 15 of each year, PPLM shall submit to the Department the compliance certification required by Section V.B. The annual certification required by Section V.B must include a statement of compliance based on the information available which 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. EU1 – Protocol Ash Handling System

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration | | Reporting Requirements |
|---|---|---|---|---|---|
| | | | Method | Frequency | |
| B.1., B.4., B.8., B.9., B.12., B.13., B.14 | Opacity | 20% | Visual Survey/ Method 9 | Weekly | Semiannual |
| B.2., B.5., B.6., B.10., B.13, B.14. | Opacity | Reasonable Precautions | Use of enclosed trucks or use of dustless ash loading system | When ash is being unloaded | Semiannual |
| B.3., B.7., B.11., B.13., B.14. | Opacity | 40% | Visual Survey/Method 9 | Weekly | Semiannual |
| | | | Operation of Bag Filters | When ash handling system is operating | |

**Conditions**

B.1. 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)).

B.2. PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken (ARM 17.8.308).

B.3. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any baghouse, bag filter, or bin vent associated with the ash handling system that exhibit opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

C**ompliance Demonstration**

B.4. PPLM shall conduct a weekly visual survey of visible emissions on the Protocol Ash Handling System. Once per calendar week, during daylight hours, PPLM shall visually survey the Protocol Ash 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) in a log, including any corrective action taken. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

B.5. When loading ash into an enclosed truck or enclosed railcar, PPLM shall use an appropriate method of conveying (e.g., pneumatic transfer, dustless slide, etc.) the ash to control fugitive dust (ARM 17.8.1213).

B.6. When loading ash to an open truck or open railcar, PPLM shall apply water to the ash prior to load-out. A load-out chute with an intact skirt shall be used for loading all open railcars and open trucks (ARM 17.8.1213).

B.7. A fabric filter control shall be used to contain dust from the loading and unloading of each of the following tanks: 2,000-ton tank, 1,500-ton tank, and 300-ton tank (ARM 17.8.1213).

**Recordkeeping**

B.8. 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).

B.9. 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).

B.10. PPLM shall maintain on site a log of the date and time when enclosed trucks, water, and load-out chute skirt were not used while the emissions unit was operating. The log must include the reason the method of controlling was not operated and the type of truck or railcar loaded (ARM 17.8.1212).

B.11. PPLM shall maintain on site a log of the date, time, and duration if bag filters were not operated while the emissions unit was operating. The log must include the reason the bag filters were not in operation (ARM 17.8.1212).

**Reporting**

B.12. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

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

B.14. 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 the log of date, time, duration, and reason if water and/or the load-out chute skirt were not used while emissions units were operating during that semiannual period; and

c. A summary of the log of date, time, duration, and reason if the bag filters were not operated while emissions units were operating during that semiannual period.

## C. EU2 – Auxiliary Boiler

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| C.1., C.4., C.5., C.6., C.7 | Opacity | 20% | Pipeline Quality Natural Gas | Ongoing | Semiannual |
| C.2., C.4., C.5., C.6., C.7 | PM | $E = 0.882 * H^{-0.1664}$ | Pipeline Quality Natural Gas | Ongoing | Semiannual |
| C.3., C.4., C.5., C.6., C.7 | Sulfur in fuel | 50 grains of sulfur/100 cubic feet of gaseous fuel | Pipeline Quality Natural Gas | Ongoing | Semiannual |

**Conditions**

C.1. 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).

C.2. When the boiler is in operation, particulate matter emissions from the boiler shall not exceed $E = 0.882 * H^{-0.1664}$ (ARM 17.8.309).

C.3. PPLM shall not fire in the boiler liquid or solid fuels containing sulfur in excess of 50 grains of sulfur/100 cubic feet of gaseous fuel (ARM 17.8.322).

**Compliance Demonstration**

C.4. PPLM shall burn pipeline quality natural gas in the auxiliary boiler while in operation to monitor compliance with the limits in Sections III.C.1, III.C.2, and III.C.3 (ARM 17.8.1213).

**Recordkeeping**

C.5. 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 by the supplier over a period of time (ARM 17.8.1212).

**Reporting**

C.6. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

C.7. The semiannual monitoring report shall provide a summary of fuel analyses and fuel receipts showing that pipeline quality natural gas was used in the boiler (ARM 17.8.1212).

## D. EU3 – Coal Handling System

| Condition | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Frequency |
|---|---|---|---|---|---|
| D.1., D.5., D.8., D.9., D.11., D.12., D.13 | Opacity | 20% | Visual Survey/Method 9 | Weekly | Semiannual |
| D.2., D.6., D.10., C.12., D13 | Opacity | Reasonable Precautions | Use of telescopic spout | Ongoing | Semiannual |
| D.3., D.7., D.10., D.12., D.13 | Opacity | 40% | Operation of bag filters | Ongoing | Semiannual |
| D.4., D.5., D.8., D.9., D.11., D.12, D.13. | PM | $E=55 * p^{0.11} - 40$ | Visual Survey/Method 9 | Weekly | Semiannual |

**Conditions**

D.1. PPLM shall not cause or authorize emissions from the Coal Handling Systems 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)).

D.2. PPLM shall not cause or authorize the production, handling transportation, or storage of any material unless reasonable precautions to control emissions of particulate matter 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)).

D.3. PPLM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any baghouse, bag filter, or bin vent associated with coal handling system that exhibit opacity of 40% or of greater (ARM 17.8.304).

D.4. The particulate emissions from process weight shall not exceed the value calculated using $E = 55.0 * P^{0.11} – 40$, where E = emissions in pounds per hour and P = process weight rate in tons per hour (ARM 17.8.310).

**Compliance Demonstration**

D.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) in a log, including any corrective action taken. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

D.6. PPLM shall use a load-out chute with telescopic spout during loading and unloading of coal (ARM 17.8.1213).

D.7. A fabric filter control shall be used to contain dust when transferring coal to the silos (ARM 17.8.1213).

**Recordkeeping**

D.8. 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).

D.9. 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).

D.10. A log shall be kept including the date, time, and duration when a fabric filter control and a telescopic spout for unloading and transferring coal were not operated while the emissions units were operating. The log must include the reason the method of control was not in operation (ARM 17.8.1212).

**Reporting**

D.11. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

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

D.13. 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); and

b. A summary of the log of date, time, duration, and reason if the filter fabric control and telescopic spout were not used while emissions units were operating during that semiannual period.

## E. EU4 – Coal Storage Piles – Active and Reserve (Wind Erosion)

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Frequency |
|---|---|---|---|---|---|
| E.1., E.2., E.3., E.4., E 5., E.6., E.7. E.8. | Opacity | 20% | Visual Survey/ Method 9 | Weekly | Semi-Annual |
| | | | Reasonable Precautions | Ongoing | Annual |

### Conditions

E.1. PPLM may not cause or authorize the emissions from the Coal Storage 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)).

E.2. PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of particulate matter 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).

### Compliance Demonstration

E.3. PPLM shall conduct a weekly visual survey of visible emissions on Coal Storage Piles. Once per calendar week, during daylight hours, PPLM shall visually survey the Coal Storage Piles 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) in a log, including any corrective action taken. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

### Recordkeeping

E.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).

E.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**

E.6. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

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

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

## F. EU5 – Gasoline Storage Tank

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| F.1., F.2., F.3., F.4., F.5. | Underground gasoline tank | 250 gallons or > gasoline in tank | Submerged fill pipe, unless tank is equipped with a vapor loss control device or is a pressure tank | Ongoing/when unloading | Semiannual |

**Conditions**

F.1. 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**

F.2. PPLM shall use a submerged fill pipe during the loading of gasoline into any stationary tank unless the tank is equipped with a vapor loss control device or is a pressure tank as required in section III.F.1 (ARM 17.8.749 and ARM 17.8.1213).

**Recordkeeping**

F.3. PPLM shall maintain on site 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 (ARM 17.8.1212).

**Reporting**

F.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

F.5. The semiannual report shall provide a summary of the log of the gasoline storage tank loading during that semiannual period as specified (ARM 17.8.1212).

## G. EU7 – J.E. Corette Boiler

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration | | Reporting Requirements |
|---|---|---|---|---|---|
| | | | Method | Frequency | |
| G.1., G.16., G.17., G.19., G.29., G.30., G.38., G.41., G.44., G.45 | Opacity | 40% | CEMS | Ongoing | Quarterly |
| | | | Method 9 | As required by the Department and Section III.A.1 | Semiannual |
| G.2., G.17., G.19., G.29., G.30., G.38., G.41., G.44., G.45 | Opacity | 23%(1-hour average) | CEMS | Ongoing | Quarterly |
| | | 17%(24-hour average) | CEMS | Ongoing | Quarterly |
| G.3., G.18., G.20., G.29., G.44., G.45 | PM | $E=0.882*H^{-0.1664}$ | Method 5 or 5B & Method 202 | Semiannual | Semiannual |
| G.4., G.19., G.31., G.44., G.45 | Sulfur in Fuel | 1lb of sulfur/ MMBtu | CEMS | Ongoing | Quarterly |
| G.5., G.21., G.33., G.44., G.45 | Sulfur in Fuel | 50 grains of sulfur/100 cubic feet of gaseous fuel | Combustion of Natural Gas or Propane | Semiannual | Semiannual |
| G.6., G.19., G.23., G.31., G.34., G.43., G.44., G.45 | $SO_2$ | 9,999,000 lb/calendar year | CEMS and SIP | Ongoing | Quarterly |
| G.7., G.19., G.23., G.31., G.34., G.43., G.44., G.45 | Buoyancy Flux | 144.6 through 448.57 $m^4/sec^2$ | CEMS (flow monitoring system) and SIP | Ongoing | Quarterly |
| G.8., .G.19., G.24., G.31., G.34., G.43., G.44., G.45 | $SO_2$ | Calculated Limit Three Hour Emission Limitation | CEMS and SIP | Ongoing | Quarterly |
| G.9., G.20., G.29., G.34., G.38., G.43., G.44., G.45 | $SO_2$ | Calculated emission rate in lb/hr | Method 6 or 6c and SIP | Annual | Semiannual |
| G.10., G.11., G.19., G.35., G.42., G.44., G.45. | Acid Rain Provisions | 40 CFR 72-78 | 40 CFR 72-78 | 40 CFR 72-78 | Semiannual |
| G.12., G.19., G.22., G.32., G.42., G.44., G.45. | NOx | 0.40 lb/MMBtu (average annual) | CEMS | Ongoing | Quarterly |
| G.13., G.25., G.36., G.44., G.45 | PM CAM Plan | ARM 17.8.1506 | Provisions from CAM Plan, Appendix K | Ongoing | Semiannual |
| G.14., G.15., G.26., G.27., G.28., G.37., G.39., G.40., G.44., G.45. | Mercury | 0.9 lb/TBtu and Installation/ Operation of Mercury Control System | MEMS | Ongoing | Quarterly |

**Conditions**

G.1. PPLM may not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.749).

G.2. PPLM shall not exhibit opacity from the boiler greater than 23% for a 1-hour averaging period and greater than 17% for a 24-hour averaging period (Department Notice of Violation and Order to Take Corrective Action dated February 28, 1985 and ARM 17.8.309).

G.3. Emissions shall not exceed the value calculated using $E = 0.882 * H^{-0.1664}$, where H is the heat input capacity in MMBtu per hour and E is the maximum allowable particulate emissions rate in lbs per MMBtu (ARM 17.8.309).

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

G.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 (ARM 17.8.322(5)).

G.6. PPLM shall not emit $SO_2$ in excess of the 9,999,000 lb/calendar year (Billings/Laurel $SO_2$ Control Plan, approved into the SIP by EPA on May 2, 2002).

G.7. PPLM shall not, except as provided in the $SO_2$ SIP Appendix, Stipulation, Exhibit A, Section 2(A)(7), have a Buoyancy Flux of less than 144.6 $m^4/sec^3$ or in excess of 448.57 $m^4/sec^3$ at any time (Billings/Laurel $SO_2$ Control Plan approved into the SIP by EPA on May 2, 2002).

G.8. PPLM shall not emit $SO_2$ from the J.E. Corette boiler in excess of the sum of all of the three-hour emission limitations pursuant to the $SO_2$ SIP Appendix, Stipulation, Exhibit A, Section 3(A)(1)(a) (Billings/Laurel $SO_2$ Control Plan, approved into the SIP by EPA on May 2, 2002).

G.9. PPLM shall conduct annual emission testing to determine the sulfur dioxide emission rate in pounds per hour (Billings/Laurel $SO_2$ Control Plan, approved into the SIP by EPA on May 2, 2002).

G.10. 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 $NO_x$ Continuous Emissions Monitoring System (CEMS) (ARM 17.8.1210(3)).

G.11. 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. The permittee 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)).

G.12. Pursuant to 40 CFR §76.7(a)(1), PPLM shall not discharge, or allow to be discharged, emissions of $NO_x$ to the atmosphere in excess of 0.4 lb/MMBtu on an annual average basis.

G.13. PPLM shall provide a reasonable assurance of compliance with emission limitations or standards for PM for the anticipated range of operations of the Tangential Coal-Fired Boiler (ARM 17.8.1504).

G.14. Beginning January 1, 2010, emissions of mercury from the boiler shall not exceed 0.9 pounds mercury per trillion British thermal units (lb/TBtu), calculated as a rolling 12-month average (ARM 17.8.771).

G.15. PPLM shall install a mercury control system that oxidizes and sorbs emissions of mercury. PPLM shall implement the operation and maintenance of the mercury control system on or before January 1, 2010 (ARM 17.8.771).

**Compliance Demonstration**

G.16. As required by the Department and Section III.A.1, PPLM shall perform a Method 9 test or another method approved by the Department to monitor compliance with the opacity limitation. Method 9 source tests must be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.1213, ARM 17.8.106).

G.17. PPLM shall operate and maintain the opacity CEM to monitor compliance with the opacity limitations. The testing shall be performed in accordance with the Opacity CEMS Appendix F and the Operation Modification Plan – Revision 4 and Revision 5 update (Appendix J of this permit).

As stated in the Operation Modification Plan - Revision 4 and Revision 5 update (Appendix J), PPLM shall be allowed 30 to 60 minutes to successfully reset an ESP trip. In the event that this procedure fails in the time allotted, then PPLM shall initiate the appropriate corrective actions contained in the Operation Modification Plan – Revision 4 and Revision 5 update (Appendix J) (ARM 17.8.1213).

G.18. PPLM shall perform a Method 5 or 5B particulate matter test in conjunction with a Method 202 condensable particulate matter test semiannually during periods the equipment is in operation to monitor compliance with the particulate matter limit in Sections III.G.3. The testing shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual. Heat input shall be calculated in accordance with 40 CFR Part 75 Appendix F, Subsection 5 – Procedures for Heat Input (ARM 17.8.1213 and ARM 17.8.106).

G.19. PPLM shall operate, calibrate and maintain CEMS for the following (ARM 17.8.1213):

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

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

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

d. Continuous monitoring for stack gas temperature, stack gas moisture (where necessary), megawatt production, and Btu per hour shall be performed.

G.20. PPLM shall conduct a Method 6, 6c, or another method approved by the Department annually to monitor compliance with the condition in Section III.G.9. The tests shall be conducted in accordance with the $SO_2$ CEMS Appendix F of this permit.

Pursuant to the $SO_2$ SIP Appendix, the annual or semiannual Relative Accuracy Test Audits (RATA) may be substituted for the annual source tests provided that the flow rate RATA and the concentration RATA are performed simultaneously and additional calculations are made to determine and report the data in pounds per hour of sulfur dioxide (ARM 17.8.1213 and SIP Appendix I).

G.21. PPLM shall monitor compliance with the emissions limit in condition III.G.5 by burning pipeline quality natural gas or propane (ARM 17.8.1213).

G.22. PPLM shall monitor compliance with the emission limitation in Section III.G.12 by following the requirements of 40 CFR Part 75, 40 CFR Part 76, and in accordance with the NOx CEMS Appendix (ARM 17.8.1213).

G.23. PPLM shall monitor compliance with the limitation in Section III.G.7 in accordance with the $SO_2$ SIP Appendix I of this permit through use of the Flow Monitoring System required by 40 CFR Part 75 and the $SO_2$ SIP Appendix except that the references on page 56.9.3.12(41) to 40 CFR Part 60 Appendix A, Section 6.0 and 40 CFR Part 60, Appendix B, Section 2.3 shall be changed to 40 CFR Part 75, Appendix A, Section 6.0 and 40 CFR Part 75, Appendix B, Section 2.3, respectively. This includes the use of the temperature probe to determine hourly average stack gas temperature and the flow monitor to determine hourly average stack gas exit velocity (ARM 17.8.1213 and Appendix I).

G.24. PPLM shall monitor compliance with the limitation in Section III.G.8 pursuant to the $SO_2$ SIP Appendix I of this permit except that the references on page 56.9.3.12(41) to 40 CFR Part 60, Appendix A, Section 6.0 and 40 CFR 60, Appendix B, Section 2.3 shall be changed to 40 CFR Part 75, Appendix A Section 6.0 and 40 CFR Part 75, Appendix B, Section 2.3, respectively (ARM 17.8.1213 and Appendix I).

G.25. PPLM shall monitor compliance by following the Compliance Assurance Monitoring (CAM) Plan (Appendix K) (ARM 17.8.1503 and ARM 17.8.1213).

G.26. 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).

G.27. Enforcement of Section III.G.14., where applicable, shall be determined by utilizing data taken from a Mercury Emission Monitoring System (MEMS). 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).

G.28. A MEMS shall be installed, certified, and operating on the boiler stack outlet on or before January 1, 2010. Said monitor shall comply with the applicable provisions of 40 CFR Part 75. The monitors shall also conform with requirements included in Appendix L (ARM 17.8.771).

**Recordkeeping**

G.29. All source test recordkeeping shall be performed in accordance with the test method used and the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

G.30. Records shall be prepared and data kept in accordance with the Opacity CEMS Appendix E and the Operation Modification Plan-Revision 5- Appendix J of this permit (ARM 17.8.1212).

G.31. Records shall be prepared and data kept in accordance with the $SO_2$ CEMS Appendix F of this permit (ARM 17.8.1212).

G.32. Records shall be prepared and data kept in accordance with 40 CFR Part 75 and the NOx CEMS Appendix G of this permit (ARM 17.8.1212).

G.33. PPLM shall maintain, on site, a log verifying the use of pipeline quality natural gas (ARM 17.8.1212).

G.34. Records shall be prepared and data kept in accordance with the $SO_2$ SIP Appendix I of this permit (ARM 17.8.1212).

G.35. PPLM shall complete all recordkeeping for Section III.G.10 and III.G.11 as required by the Acid Rain Appendix H of this permit (ARM 17.8.1212).

G.36. Records shall be prepared and data kept in accordance with ARM 17.8 Subchapter 15 and the CAM plan, Appendix K of this permit (ARM 17.8.1212 and ARM 17.8.1513).

G.37. PPLM shall conduct recordkeeping pursuant to Appendix L (ARM 17.8.771 and ARM 17.8.1212).

**Reporting**

G.38. The testing results shall be submitted to the Department in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

G.39. The owner or operator of any mercury-emitting generating unit shall report to the Department within 30 days after the end of each calendar quarter, as described in Appendix L (ARM 17.8.749):

a. The monthly average lb/TBtu mercury emission rate, for each month of the quarter;

b. The 12-month rolling average lb/TBtu emission rate for each month of the reporting quarter; and

c. Number of operating hours that the MEMS was unavailable or not operating within quality assurance limits (monitor downtime).

G.40. 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).

G.41. Excess emissions and monitoring systems performance reports shall be submitted in accordance with the Opacity CEMS Appendix E and the Operation Modification Plan-Revision 4 and Revision 5 update - Appendix J of this permit, except that reports shall only be submitted on a quarterly basis (ARM 17.8.1212).

G.42. Reports shall be submitted in accordance with 40 CFR Parts 72 through 78. PPLM shall also submit to the Department the information required in the NOx CEMS Appendix G of this permit (ARM 17.8.1212).

G.43. PPLM shall submit reports in accordance with the $SO_2$ SIP Appendix I of this permit (ARM 17.8.1212).

G.44. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

G.45. The semiannual report shall provide (ARM 17.8.1212):

a. A summary of results of any Method 9, Method 5 or 5B, Method 202, Method 6 or 6A, and any additional method tests conducted that semiannual period. The actual test reports for Method 9 need only be submitted to the Department, upon request, as specified by Section III.B.8;

b. A summary of submittal of excess emissions and monitoring systems performance reports in accordance with the Opacity CEMS Appendix E, the $SO_2$ Appendix F, the $NO_x$ CEMS Appendix G, and the Operation Modification Plan – Revision 4 Appendix J of this permit;

c. A summary of compliance with 40 CFR Part 75 and Acid Rain Appendix H;

d. A summary of the log required by Section III.G.33; and

e. A summary of compliance with CAM provisions, Appendix K of this permit.

## H. EU8 – Plant Roads

| Condition(s) | Pollutant/ Parameter | Permit Limit | Method of Compliance | Frequency of Method | Reporting Requirements |
|---|---|---|---|---|---|
| H.1., H.2., H.3., H.4., H.5., H.6, H.7., H.8. | Opacity | 20% | Visual Surveys | Weekly | Semiannual |
| | | | Reasonable Precautions | Ongoing | Semiannual |

### Conditions

H.1. 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)).

H.2. PPLM shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emissions of airborne particulate matter are taken (ARM 17.8.308(1)).

**Compliance Demonstration**

H.3. PPLM shall conduct a weekly visual survey of visible emissions on the Plant Roads. Once per calendar week, during daylight hours, PPLM shall visually survey the Plant Roads 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) in a log, including any corrective action taken. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

**Recordkeeping**

H.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).

H.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**

H.6. Any compliance source test reports must be submitted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106 and ARM 17.8.1212).

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

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

## I. EU9 – Emergency Diesel Generators

| Condition(s) | Pollutant/Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| I.1., I.5., I.8., I.11., I.12, | Opacity | 20% | Method 9 | As required by the Department and Section III.A.1 | Semiannual |
| I.2., I.6., I.9., I.11., I.12., | Particulate from fuel combustion | $E=1.026*H^{-0.233}$ | Refinery Quality No. 2 Fuel Oil | Ongoing | Semiannual |
| I.3., I.6., I.9., I.11., I.12. | Sulfur compounds in fuel (gaseous) | 50 grains per 100 SCF | Fuel analysis provided by the fuel provider | Annual | Semiannual |
| I.4, I.7, I.10, I.11., I.12., I.13 | Requirements to demonstrate initial and continuous compliance with HAPs emission limitations and operating limitations. | 40 CFR 63, Subpart ZZZZ | 40 CFR 63, Subpart ZZZZ | 40 CFR 63, Subpart ZZZZ | 40 CFR 63, Subpart ZZZZ |

### Conditions

I.1. 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)).

I.2. PPLM shall not cause or authorize particulate matter caused by the combustion of fuel to be discharged from any stack or chimney into the outdoor atmosphere in excess of $E = 1.026 * H^{-0.233}$, where H is the heat input capacity in MMBtu per hour and E is the maximum allowable particulate emissions rate in pounds per MMBtu (ARM 17.8.309).

I.3. PPLM shall not burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 standard cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions (ARM 17.8.322 (5)).

I.4. PPLM shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 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 63, Subpart ZZZZ).

### Compliance Demonstration

I.5. 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.I.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 17.8.1213).

I.6. PPLM shall monitor compliance with Sections III.I.2 and III.I.3 by burning refinery quality No. 2 fuel oil (ARM 17.8.1212).

I.7. Compliance monitoring shall be performed in accordance with 40 CFR 63, Subpart ZZZZ, as appropriate (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

**Recordkeeping**

I.8. 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 and ARM 17.8.1212).

I.9. PPLM shall maintain a log on site of the fuel analysis received from the fuel provider (ARM 17.8.1212).

I.10. Recordkeeping shall be performed in accordance with 40 CFR 63, Subpart ZZZZ, as appropriate (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

**Reporting**

I.11. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

I.12. The semiannual report shall provide (ARM 17.8.1212):

a. A summary the results of any Method 9 tests performed and logged during that semiannual period (ARM 17.8.1212); and

b. A summary of the log of the fuel analysis received from the fuel provider.

I.13. Reporting shall be performed in accordance with 40 CFR 63, Subpart ZZZZ, as appropriate (ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

## J. EU10 – Diesel Tank

| Condition(s) | Pollutant/ Parameter | Permit Limit | Compliance Demonstration Method | Compliance Demonstration Frequency | Reporting Requirements |
|---|---|---|---|---|---|
| J.1., J.2., J.3., J.4., J.5 | Opacity | 20% | Method 9 | As required by the Department and Section III.A.1 | Semiannual |

**Conditions**

J.1. 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)).

**Compliance Demonstration**

J.2. 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 17.8.1213).

**Recordkeeping**

J.3. 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 and ARM 17.8.1212).

**Reporting**

J.4. The annual compliance certification required by Section V.B must contain a certification statement for the above applicable requirements (ARM 17.8.1212).

J.5. The semiannual monitoring report shall provide a summary of results of any Method 9 test conducted during the period (ARM 17.8.1212).

## K. EU11 – Mercury Oxidizer/Sorbent Handling System

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

**Conditions**

K.1. 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)).

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

**Compliance Demonstration**

K.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) in a log, including any corrective action taken. Conducting a visual survey does not relieve PPLM of the liability for a violation determined using Method 9 (ARM 17.8.1213).

**Recordkeeping**

K.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).

K.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**

K.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).

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

K.8. The semiannual 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 |
|---|---|
| | These requirements are not applicable because the facility is not an affected source as defined in these regulations. |
| 40 CFR 60, SUBPART B | |
| 40 CFR 60, SUBPART C | |
| 40 CFR 60, SUBPART Ca | |
| 40 CFR 60, SUBPART Cb | |
| 40 CFR 60, SUBPART D | |
| 40 CFR 60, SUBPART Da | |
| 40 CFR 60, SUBPART Db | |
| 40 CFR 60, SUBPART Dc | |
| 40 CFR 60, SUBPART E | |
| 40 CFR 60, SUBPART Ea | |
| 40 CFR 60, SUBPART Eb | |
| 40 CFR 60, SUBPART F | |
| 40 CFR 60, SUBPART G | |
| 40 CFR 60, SUBPART H | |
| 40 CFR 60, SUBPART I | |
| 40 CFR 60, SUBPART J | |
| 40 CFR 60, SUBPART K | |
| 40 CFR 60, SUBPART L | |
| 40 CFR 60, SUBPART M | |
| 40 CFR 60, SUBPART N | |
| 40 CFR 60, SUBPART O | |
| 40 CFR 60, SUBPART P | |
| 40 CFR 60, SUBPART Q | |
| 40 CFR 60, SUBPART R | |
| 40 CFR 60, SUBPART S | |
| 40 CFR 60, SUBPART T | |
| 40 CFR 60, SUBPART U | |
| 40 CFR 60, SUBPART V | |
| 40 CFR 60, SUBPART W | |
| 40 CFR 60, SUBPART X | |
| 40 CFR 60, SUBPART Y | |
| 40 CFR 60, SUBPART Z | |
| 40 CFR 60, SUBPART AA | |
| 40 CFR 60, SUBPART AAA | |
| 40 CFR 60, SUBPART BB | |
| 40 CFR 60, SUBPART CC | |
| 40 CFR 60, SUBPART DD | |
| 40 CFR 60, SUBPART EE | |
| 40 CFR 60, SUBPART GG | |
| 40 CFR 60, SUBPART HH | |

| Rule Citation | Reason |
|---|---|
| 40 CFR 60, SUBPART KK | |
| 40 CFR 60, SUBPART LL | |
| 40 CFR 60, SUBPART MM | |
| 40 CFR 60, SUBPART NN | |
| 40 CFR 60, SUBPART PP | |
| 40 CFR 60, SUBPART QQ | |
| 40 CFR 60, SUBPART RR | |
| 40 CFR 60, SUBPART SS | |
| 40 CFR 60, SUBPART TT | |
| 40 CFR 60, SUBPART UU | |
| 40 CFR 60, SUBPART VV | |
| 40 CFR 60, SUBPART WW | |
| 40 CFR 60, SUBPART XX | |
| 40 CFR 60, SUBPART BBB | |
| 40 CFR 60, SUBPART DDD | |
| 40 CFR 60, SUBPART FFF | |
| 40 CFR 60, SUBPART GGG | |
| 40 CFR 60, SUBPART HHH | |
| 40 CFR 60, SUBPART III | |
| 40 CFR 60, SUBPART JJJ | |
| 40 CFR 60, SUBPART KKK | |
| 40 CFR 60, SUBPART LLL | |
| 40 CFR 60, SUBPART NNN | |
| 40 CFR 60, SUBPART OOO | |
| 40 CFR 60, SUBPART PPP | |
| 40 CFR 60, SUBPART QQQ | |
| 40 CFR 60, SUBPART RRR | |
| 40 CFR 60, SUBPART SSS | |
| 40 CFR 60, SUBPART TTT | |
| 40 CFR 60, SUBPART UUU | |
| 40 CFR 60, SUBPART VVV | |
| 40 CFR 61, SUBPART B | |
| 40 CFR 61, SUBPART C | |
| 40 CFR 61, SUBPART D | |
| 40 CFR 61, SUBPART E | |
| 40 CFR 61, SUBPART F | |
| 40 CFR 61, SUBPART H | |
| 40 CFR 61, SUBPART I | |
| 40 CFR 61, SUBPART J | |
| 40 CFR 61, SUBPART K | |
| 40 CFR 61, SUBPART L | |
| 40 CFR 61, SUBPART N | |
| 40 CFR 61, SUBPART O | |
| 40 CFR 61, SUBPART P | |
| 40 CFR 61, SUBPART Q | |
| 40 CFR 61, SUBPART R | |
| 40 CFR 61, SUBPART T | |
| 40 CFR 61, SUBPART V | |
| 40 CFR 61, SUBPART W | |
| 40 CFR 61, SUBPART Y | |
| 40 CFR 61, SUBPART BB | |
| 40 CFR 61, SUBPART FF | |
| 40 CFR 63, SUBPART F | |
| 40 CFR 63, SUBPART G | |

| Rule Citation | Reason |
|---|---|
| 40 CFR 63, SUBPART H | |
| 40 CFR 63, SUBPART I | |
| 40 CFR 63, SUBPART L | |
| 40 CFR 63, SUBPART M | |
| 40 CFR 63, SUBPART N | |
| 40 CFR 63, SUBPART O | |
| 40 CFR 63, SUBPART Q | |
| 40 CFR 63, SUBPART R | |
| 40 CFR 63, SUBPART T | |
| 40 CFR 63, SUBPART W | |
| 40 CFR 63, SUBPART Z | |
| 40 CFR 63, SUBPART EE | |
| 40 CFR 82, SUBPART A | The facility does not conduct the activities addressed by these regulations. |
| 40 CFR 82, SUBPART C | |
| 40 CFR 82, SUBPART D | |
| 40 CFR 82, SUBPART E | |
| 40 CFR 82, SUBPART G | |

## B. Emission Units

EU1 – Ash Handling System

| Rule Citation | Reason |
|---|---|
| ARM 17.8.309 | This rule is not applicable because this emissions unit is not fuel-burning equipment. |
| ARM 17.8.322 | This rule is not applicable because the pollutant regulated by this rule is not emitted from this emissions unit. |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under the Acid Rain Program. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

EU2 – Auxiliary Boiler

| Rule Citation | Reason |
|---|---|
| ARM 17.8.310 | This rule is not applicable to particulate matter emitted from fuel-burning equipment. |
| 40 CFR 82,SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under acid rain. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

EU3 – Coal Handling System

| Rule Citation | Reason |
|---|---|
| ARM 17.8.309 | This rule is not applicable because this emissions unit is not fuel-burning equipment. |
| ARM 17.8.322 | This regulation is not applicable because the pollutant regulated by this rule is not emitted from this emissions unit. |
| ARM 17.8, Subchapter 7 | No MAQP is required to date for the emissions unit. Future changes may trigger applicability of the requirement. |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under acid rain. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

EU4 – Coal Storage Piles

| Rule Citation | Reason |
|---|---|
| ARM 17.8.309 | This rule is not applicable because this emissions unit is not fuel-burning equipment. |
| ARM 17.8.322 | This regulation is not applicable because the pollutant regulated by this rule is not emitted from this emissions unit. |
| ARM 17.8, Subchapter 7 | No MAQP is required to date for the emissions unit. Future changes may trigger applicability of the requirement. |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 82, SUBPART F | |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under the acid rain program. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

EU5 – Gasoline Storage Tank
None requested.

EU7 – J. E. Corette Boiler

| Rule Citation | Reason |
|---|---|
| ARM 17.8.310 | This rule is not applicable to particulate matter emitted from fuel-burning equipment |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 82, SUBPART F | |
| 40 CFR 73, SUBPART G | These regulations are not applicable because the facility does not conduct the activities addressed by this rule. |

EU8 – Plant Roads

| Rule Citation | Reason |
|---|---|
| ARM 17.8.304 | This emissions unit is regulated by ARM 17.8.308. |
| ARM 17.8.309 | This rule is not applicable because this emissions unit is not fuel-burning equipment. |
| ARM 17.8.322 | This rule is not applicable because the pollutant regulated by this rule is not emitted from this emissions unit. |
| ARM 17.8, Subchapter 7 | No MAQP required to date for the emissions unit. Future changes may trigger applicability of the requirement. |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 82, SUBPART F | |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under the acid rain program. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

EU9 – Emergency Diesel Generators

| Rule Citation | Reason |
|---|---|
| ARM 17.8.310 | This rule is not applicable to particulate matter emitted from fuel-burning equipment |
| ARM 17.8, Subchapter 7 | No MAQP required to date for the emissions unit. Future changes may trigger applicability of the requirement. |
| 40 CFR 82, SUBPART B | These regulations are not applicable because the activities identified are not conducted as part of this emissions unit. |
| 40 CFR 82, SUBPART F | |
| 40 CFR 72 | These regulations are not applicable because the emissions unit is not an affected facility under acid rain. |
| 40 CFR 73 | |
| 40 CFR 75 | |
| 40 CFR 76 | |
| 40 CFR 77 | |
| 40 CFR 78 | |

## 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 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 and condition during the certification period, consistent with ARM 17.8.1212;

   c. The status of compliance with each term and condition 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 identified 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 Environmental Protection Agency, 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 or condition 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 & O).

**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 from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by 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 that causes the source to exceed a technology-based emission limitation under this permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of 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 that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the 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 applicable workplace safety rules or requirements at the time of the 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 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 of 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 Sec. 502(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 limits 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)

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

    a. 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 no 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);

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

c. 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; or

d. 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 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 one 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 1 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 ARM 17.8.1214 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 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 (MAQP)**

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 17.8.744(1)(a)-(k).

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

3. ARM 17.8.745(1) states that a Montana air quality permit is not required for de minimis changes such as construction or changed conditions of operation at a facility holding a Montana Air Quality Permit (MAQP) issued under Chapter 8 that do not increase the facility's potential to emit by more than 5 tons per year 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 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 more than 5 tons per year may not be artificially split into smaller projects to avoid Montana Air Quality Permitting; or

   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 17.74.301, *et seq.* and ARM 17.74.401, *et seq.* (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 Emissions Reductions**
40 CFR Part 82, Subpart F

The permittee shall comply with the standards for recycling and emissions reduction in 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B.

1. Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to §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 §82.158;

3. Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technical certification program pursuant to §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 §82.166;

5. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and,

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 §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 tons per year 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 the permittee, the permitting authority, inspectors, and the public.

Pursuant to ARM 17.8.1201(22)(a), an insignificant emissions unit means any activity or emissions unit located within a source that: (i) has a potential to emit less than 5 tons per year of any regulated pollutant; (ii) has a potential to emit less than 500 pounds per year of lead; (iii) has a potential to emit less than 500 pounds per year of hazardous air pollutants listed pursuant to 42 U.S.C. Section 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 Subchapter 12.

**List of Insignificant Activities:**

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

| Emissions Unit ID | Description |
|---|---|
| IEU11 | Process Tank Vents |
| IEU12 | Carbon dioxide System Safety Valves & Vents |

## 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 which 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 Subchapters 7, 8, 9 and 10 of this chapter, 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 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 Subchapter 6.

**"Certified Visible Emissions Evaluator"** means a person who has received certification as a qualified observer in accordance with the requirements of 40 CFR Part 60, Appendix A Method 9 Section 3.

**"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 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 which 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 Subchapters 7, 8, 9 and 10 of this chapter that is not federally enforceable.

(c) does not include any Montana ambient air quality standard contained in Subchapter 2 of this chapter.

**"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 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 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 the 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 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 60, Appendix A, Method 5 |
| Method 9 | 40 CFR 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 |
| TBtu | trillion British Thermal Units |
| tpy | tons per year |
| 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 West 15th Street, 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 the permittee, permitting authority, inspectors, and the public.

### 1. Directions to Plant:

Exit on 27th Street Interchange from I-90 in Billings. Travel east paralleling Interstate 90 on the south side to Charlene Street and turn right. The plant gate is two blocks away on the right.

### 2. Safety Equipment Required:

The following safety guidelines were submitted by, PPL Montana, LLC.

**GENERAL SAFETY GUIDELINES FOR THE J.E. CORETTE PLANT**

The following are the general safety rules for visitors at the J.E. Corette Plant. In all instances, visitors will be escorted by a company employee.

**SAFETY GLASSES AND HARD HATS**

All visitors are required to wear hard hats and safety glasses in the plant area, except when in the offices, lunchrooms, or other protected areas.

**PROPER CLOTHING**

Clothing and shoes that are suitable for the particular type of work and existing weather conditions shall be worn. Dresses, or other loose clothing, are not recommended.

**PROTECTIVE FOOTWEAR**

Closed-toe (no sandals), low-heeled shoes shall be worn. High-heel shoes with a heel less than 1 and ½ inches in diameter are not allowed.

**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.

- **Fire Prevention and Location Signs (Red and White)**

  Inform of the location and give special instructions for fire prevention. All "NO SMOKING" and other fire protection signs shall be observed.

Vision, Hearing and respiratory protection signs, where posted, shall be observed.

**HORSEPLAY**

Scuffling and 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 or in 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 competent medical authority, is strictly forbidden by Company Policy.

**3. Facility Plot Plan:**

The facility plot plan was submitted to the Department with the original operating permit application submitted for Operating Permit #OP2953-00. The facility plot plan is on file with the Department.

## 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, the permittee 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.

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

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

3. The permittee shall submit reports to the Department containing the information required by 40 CFR 60.7 and as explained below, except that all reports shall only be required Semiannual for each six-month period.

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

   b. The permittee 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 40% (6-minute average), 23% (1-hour average), or 17% (24-hour average) 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. 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. 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 one percent (1%) of the total operating time for the reporting period and CEMS down time for the reporting period is less than five percent (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 one percent (1%) or greater of the total operating time for the reporting period or the total CEMS downtime for the reporting period is five percent (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**

3. CEMS downtime in reporting period due to:

   a. Monitor equipment malfunctions.
   b. Non-monitoring equipment malfunctions.
   c. Quality assurance calibrations.
   d. Other known causes.
   e. Unknown causes.

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

5. $\frac{\text{Total CEMS downtime when the boiler is operating x 100}}{\text{Total Boiler Operating Time}}$ = % downtime

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

The semiannual reports must be postmarked by the 30th day after the end of each six-month period.

## Appendix F $SO_2$ CEMS

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

1. Pursuant to 40 CFR Part 75, the permittee shall calibrate, maintain, and operate continuous monitoring systems. Heat input shall be determined as required in the 40 CFR Part 75, Appendix F and the NOx CEMS Appendix.

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

3. The permittee shall submit reports to the Department containing the information:

   a. The permittee 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. The permittee 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 greater than 2 lbs of $SO_2$/mmBtu 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. The process operating time during the reporting period.

      ii. Any periods of time when the monitor range is exceeded. This shall include the date and time of commencement and completion of each time period the monitor is exceeding the range. The process operating time during the reporting period. These periods shall be considered periods of excess emissions.

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

      iv. 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 and adjustments.

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

   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 one percent (1%) of the total operating time for the reporting period and CEMS downtime for the reporting period is less than five percent (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 one percent (1%) or greater of the total operating time for the reporting period or the total CEMS downtime for the reporting period is five percent (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:

   f. Startup/shutdown.
   g. Control equipment problems.
   h. Process problems.
   i. Other known causes.
   j. 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:

   f. Monitor equipment malfunctions.
   g. Non-monitoring equipment malfunctions.
   h. Quality assurance calibrations.
   i. Other known causes.
   j. 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 semiannual reports must be postmarked by the 30th day after the end of each six-month period.

4. The permittee 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, which 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.

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

6. The permittee shall submit copies of each monitoring plan revision, which 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. 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. The permittee shall conduct a "Standard Practice for Ultimate Analysis of Coal and Coke", ASTM D5291-92, at a minimum of once per year for each type of coal used.

3. The permittee 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 type of coal used.

4. The permittee shall conduct a weekly fuel analysis using ASTM D4239-85 or other method approved by the Department.

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

6. The permittee shall submit reports to the Department containing the following information:

    a. The permittee 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. The permittee shall submit a monitoring system performance report to the Department in the format shown in Figure 1.

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:

   k. Startup/shutdown.
   l. Control equipment problems.
   m. Process problems.
   n. Other known causes.
   o. 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:

   k. Monitor equipment malfunctions.
   l. Non-monitoring equipment malfunctions.
   m. Quality assurance calibrations.
   n. Other known causes.
   o. 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 reports shall only be required Semiannual for each six-month period. The semiannual reports must be postmarked by the 30th day after the end of each six-month period.

7. The permittee 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 (lbs/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.

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

9. The permittee shall submit copiers of each monitoring plan revision, which results in the need to recertify the CEMS.

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

# Phase II $NO_x$ Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9
This submission is: [ ] New [xx] Revised

Page 1 of 2

**STEP 1**
Indicate plant name, State, and ORIS code from NADB, if applicable

| Plant Name | State | ORIS Code |
|---|---|---|
| JE Corette Plant | MT | 2187 |

**STEP 2**

Identify each affected Group 1 and Group 2 boiler using the boiler ID# from NADB, if applicable. Indicate boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom. Indicate the compliance option selected for each unit.

| | ID# 00002 Type T | ID# Type | ID# Type | ID# Type | ID# Type | ID# Type |
|---|---|---|---|---|---|---|
| (a) Standard annual average emission limitation of 0.50 lb/mmBtu (for Phase I dry bottom wall-fired boilers) | | | | | | |
| (b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers) | | | | | | |
| (c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in plan) | | | | | | |
| (d) Standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers) | | | | | | |
| (e) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers) | xxx | | | | | |
| (f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers) | | | | | | |
| (g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers) | | | | | | |
| (h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers) | | | | | | |
| (i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers) | | | | | | |
| (j) $NO_x$ Averaging Plan (include $NO_x$ Averaging form) | | | | | | |
| (k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack) | | | | | | |
| (l) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with $NO_x$ Averaging (check the $NO_x$ Averaging Plan box and include $NO_x$ Averaging form) | | | | | | |

EPA Form 7610-28 (Revised 12-2009)

Plant Name (from Step 1) JE Corette Plant

**STEP 2, cont'd.**

| | ID# / Type | ID# / Type | ID# / Type | ID# / Type | ID# / Type | ID# / Type |
|---|---|---|---|---|---|---|
| **(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17(a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **(p) Repowering extension plan approved or under review** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**STEP 3**
**Read the standard requirements and certification, enter the name of the designated representative, sign &**

**Standard Requirements**

General. This source is subject to the standard requirements in 40 CFR 72.9 (consistent with 40 CFR 76.8(e)(1)(i)). These requirements are listed in this source's Acid Rain Permit.

**Special Provisions for Early Election Units**

Nitrogen Oxides. A unit that is governed by an approved early election plan shall be subject to an emissions limitation for $NO_x$ as provided under 40 CFR 76.8(a)(2) except as provided under 40 CFR 76.8(e)(3)(iii).
Liability. The owners and operators of a unit governed by an approved early election plan shall be liable for any violation of the plan or 40 CFR 76.8 at that unit. The owners and operators shall be liable, beginning January 1, 2000, for fulfilling the obligations specified in 40 CFR Part 77.
Termination. An approved early election plan shall be in effect only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect. If the designated representative of the unit under an approved early election plan fails to demonstrate compliance with the applicable emissions limitation under 40 CFR 76.5 for any year during the period beginning January 1 of the first year the early election takes effect and ending December 31, 2007, the permitting authority will terminate the plan. The termination will take effect beginning January 1 of the year after the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan. The designated representative of the unit under an approved early election plan may terminate the plan any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under 40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect. If an early election plan is terminated any year prior to 2000, the unit shall meet, beginning January 1, 2000, the applicable emissions limitation for $NO_x$ for Phase II units with Group 1 boilers under 40 CFR 76.7. If an early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for $NO_x$ for Phase II units with Group 1 boilers under 40 CFR 76.7.

**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.

| | |
|---|---|
| Name James M Parker | |
| Signature James M Parker | Date May 3, 2011 |

EPA Form 7610-28 (Revised 12-2009)

## Appendix I $SO_2$ SIP

Although the hard copy of Appendix I has been removed from the permit, the contents of Appendix I, $SO_2$ Control Plan remain as applicable requirements as stated in the Title V Operating Permit OP2953-07. To receive a copy of this appendix, please see the following website:

Internet link to the final copy of the SIP located on EPA's web page:
PPLM Corette SIP (See Yellowstone County)

or contact the Department:

Montana Department of Environmental Quality
Permitting and Compliance Division
Air Resources Management Bureau
1520 E. Sixth Ave.
P.O. Box 200901
Helena, Montana 59620-0901
Bureau Phone: (406) 444-3490

## Appendix J OPERATION MODIFICATION PLAN-Revision 4 & Revision 5 Update

Montana Power Company
J.E. Corette Plant
**Operation Modification Plan**
Revision 4 - December 18, 1991

### Introduction

On February 28, 1985, the Montana Department of Health and Environmental Sciences issued a Notice of Violation/Order to Take Corrective Action regarding particulate matter emissions from the Montana Power Company's J.E. Corette Plant in Billings. This Order required Montana Power to submit a compliance Plan to the Air Quality Bureau (AQB) by July 1, 1985, which specified the measures adequate to reduce emissions to levels below the standard in ARM 16.8.1402. This plan was submitted to the AQB on June 17, 1985, and was approved by the AQB on July 16, 1985.

The Order to Take Corrective Action allowed the Compliance Plan to address both Air Pollution Control (APC) equipment modifications and operating changes which would be successful in maintaining particulate matter emissions within the standard. The approved Compliance Plan did contain both APC Modification and Operation Modification Plans.

The original deadline for providing the AQB with demonstration that the Operation Modification Plan will keep particulate matter emissions within limits was April 1, 1986. Montana Power requested, and the AQB approved, extending the deadline to May 1, 1986, in order to complete additional testing necessary to confirm critical aspects for final Plan development. This testing has been completed and added to the data base from which this Plan has been prepared.

Since July 16, 1986, the Plan has been implemented successfully by Montana Power Company. It became apparent from the data collected during compliance tests mandated in the Plan that mass emissions were consistently well below the emission standard in ARM 16.8.1402. Operating conditions in the summer of 1986 suggested that some of the Operation Modification Plan specifications were precluding the most cost effective, yet still environmentally sound, operation of the J.E. Corette Plant.

Montana Power, with Air Quality Bureau consent, conducted tests in July and November, 1987 to confirm that plant operation outside of Plan ranges for certain operational parameters did not negatively effect the plant's ability to meet the ARM standard. Test data did confirm this fact and in February, 1988 the AQB consented to allow the plant to operate in any manner deemed necessary to achieve good power plant practice as long as all emission standards were met. The data from the confirmation tests, as well as all compliance testing since Plan inception has been added to the Plan data base and Revision 2 updates the Plan to reflect these changes.

Revision 3 of the Plan incorporates a change in the method of compliance demonstration. Since Plan inception, plant compliance was demonstrated by reported adherence to the Operational Assessment Parameters (OAP) and the results of quarterly Reference Method 5 tests. On July 21, 1989, the AQB agreed to a May 9 proposal by MPC to reduce the number of annual particulate tests necessary to demonstrate compliance.

Agreed upon was a reduction from four tests per year to two per year, with the tests performed in alternating quarters. In anticipation of increased reliance upon the opacity monitor for compliance demonstration, this agreement also provided for the performance of a quality control audit on the monitor twice per year in the quarters when no compliance test is conducted, plus the performance of a comprehensive field monitor calibration once per year. The results of these QC activities will be reported to the AQB in the J.E. Corette monthly emissions reports. These changes are to be implemented in 1990 and subsequent years.

Appendix III contains all correspondence between AQB and Montana Power regarding this revision. Changes to the body of the OMP resulting from this revision occur in Section 4.1.2 and Table 1. Other sections of the Plan remain unchanged.

On November 13 and 28, 1990, the Corette plant was found in violation of the ARM 16.8.1402 requirements due to a malfunction of the electrostatic precipitator (ESP) which necessitated electrically splitting the west outlet bank, or taking one-half of this bank out of service. The Consent Decree entered in the resulting enforcement action included conditions requiring MPC to amend the OMP to increase compliance testing and address ESP malfunctions. The Consent Decree is contained in Appendix IV.

Revision 4 incorporates provisions for increasing particulate compliance test frequency from semi-annually to quarterly. This increased frequency is applicable for two years, starting in September, 1991 and ending in September, 1993, at which time the frequency of testing will revert back to semi-annually.

Revision 4 also addresses times when the ESP malfunctions, resulting in all or a portion of a bank being taken out of service. This revision defines a specific test plan to determine a safe level of particulate compliance under these conditions. This response plan does not include reliance upon opacity to indicate mass emissions since the normal opacity/mass relationship may be altered by the ESP malfunction.

A new section of the Executive Summary entitled "ESP Malfunction Response Plan Development and an additional conclusions paragraph have been added to reflect this revision. Also, additional clarification has been added in new Sections 3.4,4.1.2(b) and 4.4.

**Executive Summary**

The Montana Power Company has prepared this Operation Modification (OM) Plan to comply with the provisions of the Order to Take Corrective Action and approved Compliance Plan. This OM Plan is based on the five key elements listed below.

1) This Plan provides an operation modification program sufficient to achieve compliance with the particulate matter standard in ARM 16.8.1402, consistent with regulatory direction and existing plan approvals to date.

2) The Plan provides an adequate test data base, which demonstrates the degree of emission reductions achieved and the minimum levels required to remain under the standard.

3) The Plan defines the criteria to be used in determining compliance, which provides the flexibility in plant operation necessary to meet said criteria.

4) The Plan contains provisions to assure continuous compliance during future operation with a high level of confidence that compliance with the standard will be achieved.

5) The Plan allows for future modifications in operation practices or air pollution control equipment as business or regulatory conditions change, which will still allow the plant to operate within the standard.

The following sections provide the necessary detail supporting each key element above. The Montana Power Company expects this Plan to meet both the letter and intent of the Order to Take Corrective Action and is confident the Plan addresses all areas necessary to adequately assure continued compliance by the J.E. Corette plant with the particulate matter standard.

1.0 Ongoing testing and evaluations outlined in the Compliance Plan have provided the following information for preparing an operation modification program which will achieve compliance.

1) The variables which most affect the ability of the existing ESP to remove particulate matter are coal ash content, flue gas temperature, and degree of flue gas/ESP conditioning. Other factors, such as gas flow distribution, sootblowing/rapping cycles, and maintenance of overall ESP operating parameters at optimum levels are also important in maximizing removal from the existing ESP.

2) Repeatable relationships exist between particulate matter mass emissions and opacity. These relationships exist over a wide range of coal ash content, flue gas conditioning (FGC) agents, and plant operating loads. Opacity can be used reliably to monitor mass emission rates within acceptable limits of statistical confidence.

3) Both commercial and generic flue gas conditioning agents have proven effective in reducing mass emission rates below the standard. However, the horizontal superheat section in the boiler has seen corrosion due to commercial FGC injection in that area. Because of this effect on the boiler, the higher cost of the commercial chemical, and acceptable performance of the generic FGC chemical, the preferred FGC agent is the generic product. The generic product uses a dual feed system, injecting ammonium sulfate before the air heater and ammonium nitrate downstream of the air heater.

4) Modification to plant operating practices and successful FGC/ESP system optimization can allow plant operation over a wide range of loads within the standard. Under certain marginal operating conditions, load decreases are necessary to keep emissions under the standard.

## 2.0 Initial Plan Development - Phase I Test Data

Phase I testing and evaluation of the various elements of the Operation Modification Plan began soon after the Compliance Plan was approved. This testing included both stack and ESP inlet particulate matter emission rate tests and particle sizing tests. This substantial data base was collected over a broad range of plant operating conditions using coal with different ash characteristics. The data base supporting this plan is found in Appendix I which summarizes the following test results:

51 - Reference Method 5 Stack Particulate Matter Tests
25 - Reference Method 17 ESP Inlet Particulate Matter Tests
6 - Cascade Impactor Particle Sizing ESP Inlet Tests

This data is the basis for one of the mass vs. opacity relationships mentioned in Section 1.2 and shown in Figure 1. This relationship uses all 51 data points to generate a linear curve which has an acceptable correlation coefficient. This curve will be used to indicate opacity levels relative to plant emissions during normal operating periods. Based on this 51-point curve, particulate matter mass emissions can be expected to be at or below the standard at about 17% opacity when the plant is operated over 140 GMW, is not in a startup/shutdown or initial load increase/decrease phase, the present FGC/ESP conditioning system is used, and all ESP banks are in full operation. There is of course a range of statistical uncertainty around this point associated with the overall sample distribution. The upper opacity limit of this range corresponding to the particulate matter standard, at 99.9% confidence, is about 23% opacity. (See explanatory note 4.) There is no set generation level where the emission limit is exceeded, rather, the maximum load the plant can carry depends upon several operating variables. For the range of operating conditions the plant experiences, maximum generation allowable while still meeting the emission standard may range between full load and 80% of same. This is an effective nominal range of 172 to 138 GMW.

**Plan Implementation - Phase I1 Test Data**
The quarterly compliance audits conducted since the inception of the OM Plan, Revision 1 through November 1987, a total of 36 Reference Method 5 Stack Particulate Matter Tests, have indicated the following items:

1) The Corette plant has operated well within the opacity and mass emission guidelines outlined here.

2) The Operational Assessment Parameters of Section 4.2 and Table 1 can be varied outside the specified ranges with mass emissions still staying well below the allowable standard.

3) During normal plant operation, the Corette plant is capable of mass emission characteristics other than the mass emission relationship shown in Figure 1. Phase II test data has shown that mass emissions have actually decreased relative to those predicted by Figure 1. Since emission characteristics have improved relative to Figure 1, operation of the plant in adherence to Figure 1 will result in mass emissions below the originally redicted levels and further below the standards than initially estimated.

A number of these tests were conducted with MAQB approval for the specific evaluation of the plant's ability to meet the emission standards at Operational Assessment Parameter values outside the ranges of Table 1. After reviewing the test data, Montana Power proposed and MAQB agreed to allow Corette plant operation outside the Operational Assessment Parameters of Table 1, as long as such operation does not jeopardize compliance with the opacity or mass emission standards. Appendix 2 contains the Phase II test data along with pertinent communication between Montana Power and MAQB regarding this revision to the OM Plan.

The Phase II tests also pointed out that for a given opacity, mass emissions are currently lower than would be predicted by Figure 1. Operation of the plant in strict adherence with the opacity standards resulting from Figure 1 yields mass emissions further below the standard than originally predicted.

**ESP Malfunction Response Plan Development**
From the period of September 13 to November 30, 1990, the Corette plant operated with the west outlet bank electrically split, or at one-half its collection capability due to a malfunction in this area. Compliance testing during November revealed that, although plant operation and opacity were well within OMP Standards, at loads above 150 GMW, the emission standard of *ARM* 16.8.1402 was exceeded. This situation demonstrated that the normal opacity versus mass relationship was significantly altered.

Additional compliance testing in December, 1990 revealed that after repair of the ESP malfunction, the historical opacity/mass relationship again prevailed. These results meant that under normal plant operation, then current OMP compliance procedures were adequate to insure compliance; but with an ESP malfunction, an alternate procedure was necessary to insure compliance.

This procedure was developed through discussions between MPC and AQB in the subsequent enforcement proceedings stemming from two November, 1990 violations of ARM 16.8.1402. Agreed upon were a load drop to 150 GMW, subsequent particulate emission testing, and further load changes until a safe level of compliance was found. This load level would then be maintained until the ESP malfunction was corrected.

Agreed upon further was an increase in the frequency of particulate compliance testing from semi-annually to quarterly for a period of two years beginning in September 1991.

**Conclusion**

The tests conducted to date confirm opacity as the best indicator of continuous particulate matter emission compliance over other parameters which could be selected. Phases I and I1 of the OM Plan particulate testing have yielded slightly different mass versus opacity relationships. Our conclusion is that all test data and the accompanying relationships are representative of normal plant operation. However, the relationship shown in Figure 1 is still the most applicable for use in the Operation Modification Plan to provide the best assurance of controlling emissions at levels below the standard.

Developments in 1990 have shown that an ESP malfunction and subsequent bank splitting cannot be considered normal plant operation. Figure 1, therefore, cannot be relied upon to insure particulate emission compliance under these circumstances. A separate response plan, specific to these conditions, is the best method for maintaining the proper compliance level.

3.0 Using the data and evaluations presented in the previous section, the following criteria are proposed to meet the particulate matter standard. These criteria utilize the opacity monitor as the primary indicator of continuing compliance except as outlined in 3.4.

3.1 The six-minute opacity requirements will remain as specified in *ARM* 16.8.1404. The provisions contained in this section are needed to allow startup/shutdown and sootblowing activities consistent with normal practices acknowledged by the agency in the present rules as necessary for operation.

3.2 In order to keep particulate matter emissions below the standard specified in ARM 16.8.1402 on a continuing basis, the plant will keep average 24-hour opacity levels at or below 17%, based on the relationship shown in Figure 1. The 24-hour average opacity will begin each day at midnight and will be calculated by averaging all individual hourly opacity averages measured during the period.

3.3 Hourly opacity averages will be at or below 23% opacity. If any hourly average in any 24-hour period exceeds 17% opacity, corrective action will be initiated during the following hour and will continue until the hourly average opacity values are at or below 17%. Corrective actions may include several operating changes or load decreases as necessary to reduce opacity in a timely manner. Hourly opacity averages occurring during plant malfunction or emergency conditions will continue to be handled as specified in *ARM* 16.8.705.

3.4 During times when ESP malfunctions result in failure of all or portions of a bank, all OMP guidelines and standards will be maintained. Load will be lowered to 150 GMW and Reference Method testing, followed by load adjustment, will be utilized to insure compliance.

4.0 The J.E. Corette Plant is expected to operate in the following manner until such time that better operating or equipment modifications are demonstrated as acceptable to the agency.

4.1 Regulatory Criteria: The criteria listed below and summarized under Regulatory Criteria in Table 1 will be used to determine compliance with ARM 16.8.1402 and 1404.

4.1.1 Plant opacity will be monitored and controlled to meet the regulatory criteria listed in Section 3.0.

4.1.2 a) Semi-annual particulate matter emission audits will continue to be performed by the MPC Environmental Engineering Department except as explained in paragraph b) below, until such time as it is determined

that this testing frequency is not required. Mass emissions will not exceed the standard in ARM 16.8.1402.

b) Beginning in September 1991, and continuing for a period of two years (September 1993), the frequency of particulate emission testing shall be increased to four times per year, after which the frequency shall remain at twice per year.

c) Opacity monitor quality control audits performed according to Procedures Manual for Opacity Accuracy Audit, contained in Appendix III of this Plan, will be performed twice per year by Corette Plant personnel. These audits will be completed during the quarters in which no semi-annual particulate matter emission audits are conducted, with results being reported in the J.E. Corette monthlyemissions report.

d) An annual opacity monitor comprehensive field calibration will be performed according to the Appendix III procedure RM41 Comprehensive Field Calibration. This calibration will be performed by Corette personnel and reported in the J.E. Corette monthly emissions report.

4.2 Operational Assessment Parameters: These parameters and practices are important in keeping the mass vs. opacity relationship consistent and are indicators of good air pollution control practice. They are not regulatory criteria like the standards but are the nominal range or values determined by testing to be representative of normal operating conditions.

4.2.1 Flue gas oexit gas temperature will normally be below 270 F.

4.2.2 The FGCIESP system using generic chemicals, or the commercial product as needed, will be operated at the optimum feed rates and control ranges demonstrated during the testing presented in Appendices 1 and 2. These operational assessment parameters are listed in Table 1. The Operations Department will continue to employ improved methods of ESP cleaning recently developed in order to help maintain optimum operating conditions.

4.2.3 Coal analysis will be performed on all trains received and ash content monitored such that unit operation will be appropriate to the fuel received.

4.2.4 All information listed above and in Table 1 will be reported monthly in a format acceptable to the agency.

4.3 The operating practices detailed above and listed in Table 1 are guidelines only and may be changed at any time as long as the opacity and mass emission standards in this plan are adhered to.

4.4 Electrostatic Precipitator Malfunctions: When a malfunction of the electrostatic precipitator occurs which results in the failure of a bank or a portion of a bank, MPC shall reduce the load at the Corette Plant to 150 MWG and schedule particulate emission compliance source testing within 40 hours. Those tests would take place at four different loads (140, 145, 150, and 155 MWG). The Plant would then operate at the highest load where all three runs in a test series demonstrate compliance with ARM 16.8.1402. If all tests indicated emission rates above the standard, the Plant would reduce load to 135 MWG and schedule another series of particulate emission compliance source testing within 40 hours. It is recognized that as a result of the testing to determine compliance described above, MPC will be altering the load of the Corette Plant which will affect the rate of particulate emissions, and that emissions in excess of the

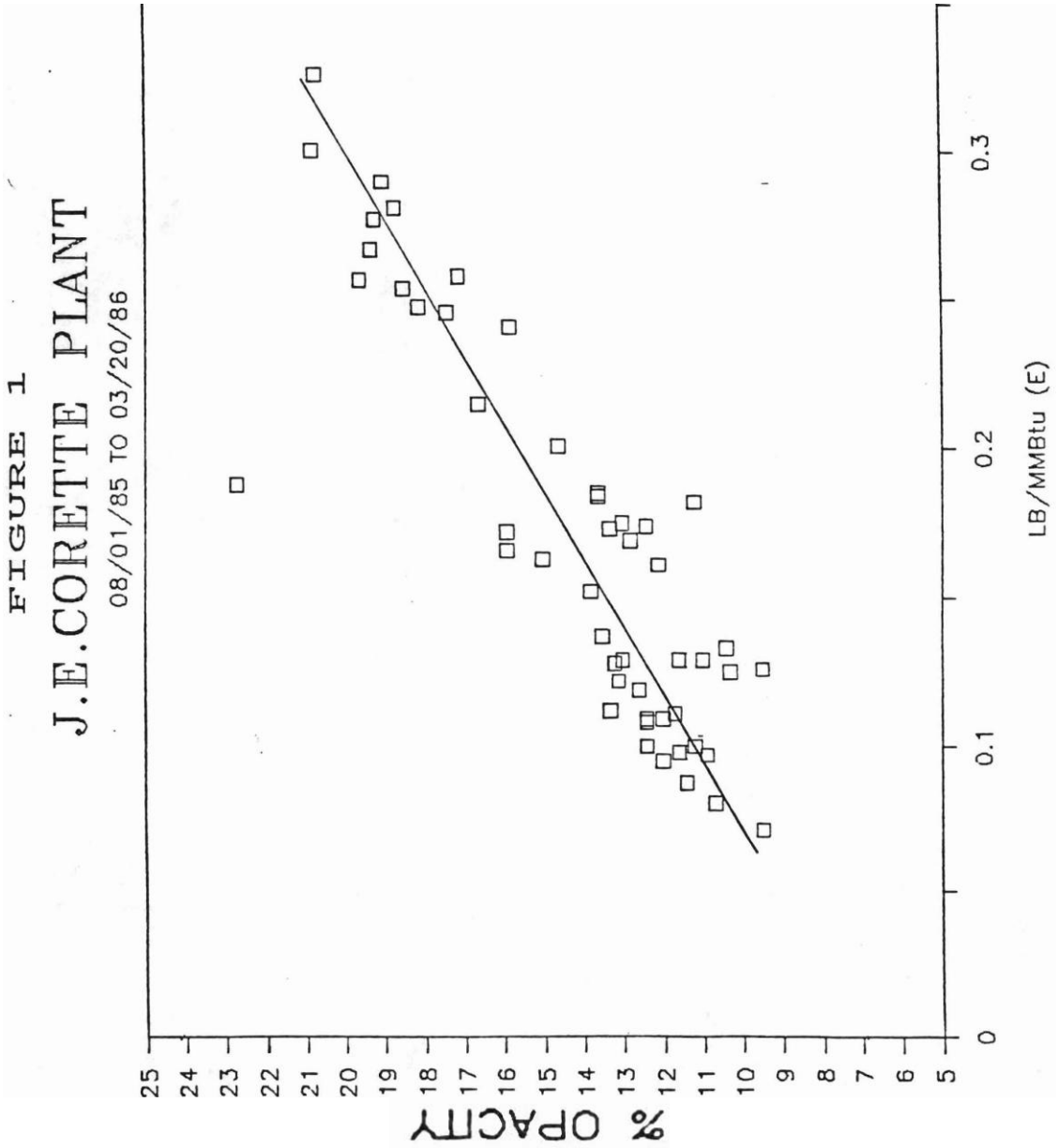
standard in ARM 16.8.1402 are possible. Such testing to determine compliance is necessary for MPC to derive an operational strategy to respond to the malfunction of the electrostatic precipitator.

Table 1
J.E. Corette Plant
Operation Modification Plan
Summary of Key Operating Parameters
Regulatory Criteria

| Parameter | Criteria |
|---|---|
| Opacity | 1) 40% - 6 minute average (per Section 3.1)<br>2) 23% - 1 hour average (per Section 3.3)<br>3) 17% - 24 hour average (per Section 3.2 and 3.3) |
| Reference Method 5 Tests | 1) Performed semi-annually and supplemented by two quality control audits and one comprehensive field calibration of the opacity monitor. (Per Section 4.1.2) |

Operational Assessment Parameters

| Parameter | Nominal Ranges |
|---|---|
| Flue Gas Exit Gas Temperature | 1) Less than 270°F nominal range |
| FGC Feed Rates/Time of Injection | 1) Generic: 5 GPH (nominal) pre-air heater (upper ), 6 to 9 GPH (nominal) post-air heater (lower) at loads above 120 GMW |
| Average Total ESP Power | 1) Minimum total powers of 110 KVA Daily hourly average |
| Sootblowing Frequency | 1) 3 to 4 retractable sootblowers per hour at loads above 145 GMW |
| Coal Ash Content | 1) Less than 13.5 lb/MMBtu (Upper 95% CI of D Coal) nominal - train average |
| Plant Generation | 1) Total daily load reductions necessary to meet 24 hour opacity criteria<br>2) Hourly load reduction during periods of corrective action |
| Air Dump Position | 1) Changes made during periods of corrective action |
| Natural Gas Consumption | 1) 0 to 275 MCF/hour - nominal daily average feed rate<br>2) Changes in feed rate made during periods of corrective action |




Explanatory Notes to Figure 1

1) This curve is based on 51 data points which are representative of particulate matter emissions under normal operating conditions.
2) The equation of the curve is:

   % Opacity = 42.89(E) + 6.97\ 2

   The correlation coefficient (R ) of this line i s 0.7517.

3) The curve is based on particulate matter present in the stack and observable by the transmissometer. This fraction is best represented by the front half catch of the RM5 train, denoted E and expressed in lb/MMBtu. The average condensable fraction collected in the RM5 impinger train is 0.026 lb/MMBtu. At loads greater than 90% of full load, the compliance limit is conservatively estimated at 0.253 lb/MMBtu. Using the curve in Figure 1, the front half emissions are estimated as:

   0.253 - 0.026 = 0.227 lb/MMBtu

   Using this value in the curve equation yields at opacity of about 17%.

4) The confidence interval for a single opacity based on a known emission rate is determined from the equation:

$$\hat{Y} \pm t_{x/2} \sqrt{\frac{SSE}{n-2}} \sqrt{1 + \frac{1}{n} + \frac{(Xp-\bar{X})^2}{\sum x^2 - \frac{(\sum x)^2}{n}}}$$

where: $SSE = \sum (y-\tilde{y})^2 - (slope/n)\,[n \sum xy - (\sum x)(\sum y)]$

At 99.9% confidence, the upper opacity limit is calculated to be **about 23%** opacity.

# JE Corette Steam Electric Station (JECSES)
# PPL Montana

## Operation Modification Plan
## Revision 5 – 3/28/12

On February 28, 1985, the Montana Department of Health and Environmental Sciences issued a Notice of Violation/Order to Take Corrective Action regarding particulate matter emissions from the JE Corette Plant in Billings. This Order resulted in a Compliance Plan which specified the measures adequate to reduce emissions to levels below the particulate compliance standard. That plan was submitted and approved by the Air Quality Bureau on July 16, 1985.

This Compliance Plan included an Operation Modification Plan (OMP) that identified operating parameter ranges to help ensure compliance with the particulate standard. The current Operation Modification Plan was last revised December 18, 1991.

Recently, the Montana Department of Environmental Quality (MDEQ) requested the JECSES to update its Compliance Assurance Monitoring (CAM) Plan for particulate emissions (PM) and include operational parameters as appropriate. While updating the CAM plan, it became apparent that the OMP was essentially serving a similar purpose as the CAM plan and it was important to update to OMP to be consistent with the CAM plan. This revision to the OMP brings it up-to-date with current operating procedures and makes it consistent with the CAM plan.

1.0 Criteria to ensure compliance with the particulate standard

1.1 The six-minute opacity requirements (40%) will remain as specified in ARM 16.8.1404. The provisions contained in this section are needed to allow startup/shutdown and soot blowing activities consistent with normal practices acknowledged by the agency in the present rules as necessary for operation.

1.2 In order to keep particulate matter emissions below the standard specified in ARM 16.8.1402 on a continuing basis, the plant will keep daily (24 hour) opacity levels at or below 17%. This limit was based on the PM vs opacity relationship identified in the previous revision to the OMP. The daily opacity average will begin each day at midnight and will be calculated by averaging all individual hourly opacity averages measured during the day.

1.3 Additionally, hourly opacity averages will be at or below 23% opacity. Corrective actions to ensure compliance with these opacity limits may include several operating changes or load decreases as necessary to reduce opacity in a timely manner. Hourly opacity averages occurring during plant malfunction or emergency conditions will continue to be handled as specified in ARM 16.8.705.

1.4 During times when ESP malfunctions result in failure of all or portions of a bank, all OMP guidelines and standards will be maintained. Load will be lowered to 150 GMW and Reference Method testing, followed by load adjustment, will be utilized to ensure compliance.

2.0 The JE Corette plant is expected to operate in the following manner until such time that better operating or equipment modifications are demonstrated as acceptable to the agency.

2.1 Regulatory Criteria: The criteria listed below and summarized under Regulatory Criteria in Table 1 will be used to determine compliance with ARM 16.8.1402 and 1404.

2.1.1 Plant opacity will be monitored and controlled to meet the regulatory criteria listed in Section 1.0.

2.1.2 Semi-annual particulate matter emission tests will be conducted to demonstrate compliance with the standard.

2.1.3 Opacity accuracy audits will be conducted quarterly. Complete descriptions of these assessments can be found in the PPL Montana Continuous Emissions Monitoring Systems (CEMS) Quality Assurance (QA) Plan.

2.1.4 An annual opacity monitor comprehensive field calibration will be performed.

2.2 Operational Assessment Parameters: These parameters have been determined to be important to the operation of the air pollution control equipment (ESP). They are not regulatory criteria like the standards, but are the nominal range or values determined to be representative of good ESP control operating conditions.

2.2.1 Flue gas exit temperature will normally be below 290° F on a daily average.

2.2.2 The total ESP powers will normally be above 150 KVA on a daily average.

2.2.3 The coal ash content will normally be below 10 lb/mmbtu as delivered by train.

2.2.4 All information listed above and in Table 1 will be reported quarterly to the Agency.

2.2.5 The operating practices described above and in Table 1 are guidelines only, describing current conditions which help assure particulate compliance. These conditions may be changed in the future to make sure the ESP performance is maintained and to help assure particulate compliance.

## Appendix K Compliance Assurance Monitoring (CAM) Plan

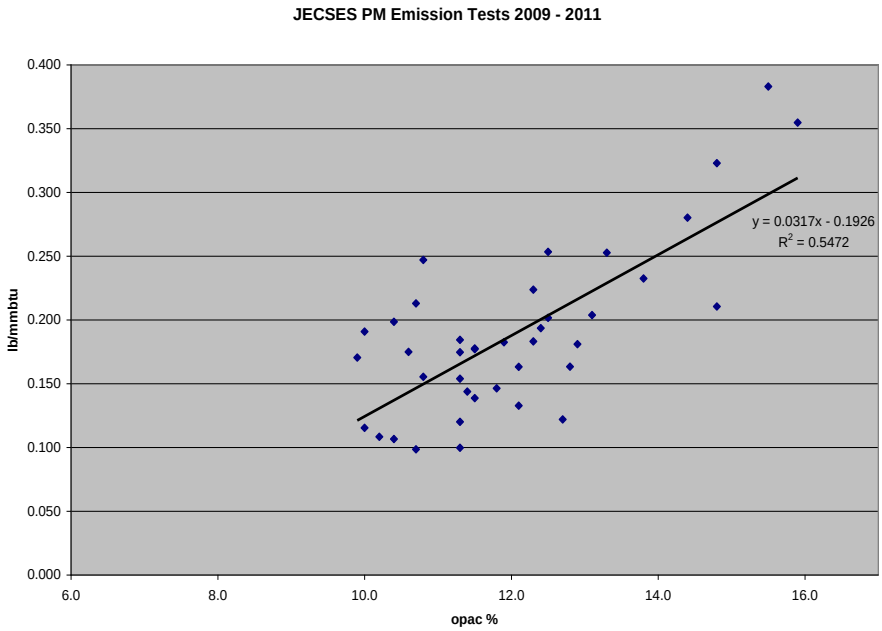
| EU7 - J. E. Corette Boiler CAM Plan for PM | | |
|---|---|---|
| **Monitoring Indicator** | **Performance Indicator Range** | **Monitoring Method** |
| Opacity | Daily Average <14% | COM/Continuous |
| Flue Gas Exit Temperature | Daily Average <290°F | Plant Control Room Operator Monitor/Continuous |
| Total ESP Powers | Daily Average >150kVA | Plant Control Room Operator Monitor/Continuous |
| Coal Ash Content | Daily Average <10 lb/MMBtu | 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. Opacity data is collected and stored in the DAHS. Six-minute, hourly and daily averages are calculated based on 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 ≤ 14% as measured on a daily average. 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. Semi-annual performance tests have indicated that the PM standard is met when opacity is ≤ 14%. See the figure below, PPLM PM emission tests 2009-2011.

2. Corrective actions will be taken as necessary within each day when the day's daily building block average is above 14%. This will help ensure the daily average opacity remains at or below 14%.



**Flue Gas Exit Temperature, Total ESP Powers, & Coal Ash Content**

Flue Gas Exit Temperature, Total ESP Powers, & Coal Ash Content are also parameters that will be monitored as indicators of the proper operation of the ESP. The plant control room operator will monitor these performance indicators on a continuous basis and take action to help prevent excursions of the performance indicators at the set ranges in the above table. A review of historical operating data indicates that the ESP is operating properly when the flue gas exit temperature is below 290°F, total ESP powers above 150 kilovolt-ampere (kVA), and coal ash content is less than 10 lb/MMbtu.

Flue Gas Exit Temperature

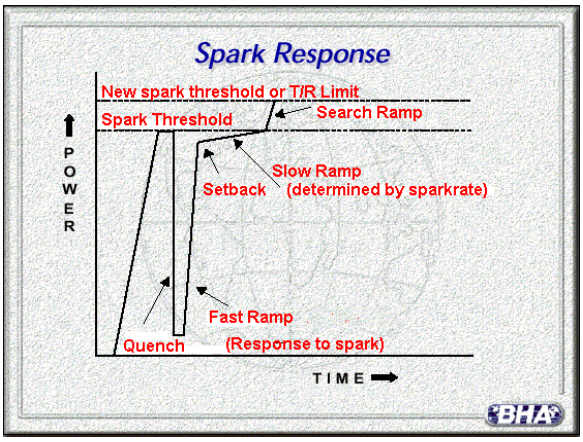
The flue gas exit temperature is the temperature of the stream as it enters the ESP. A large enclosure is one of the essential elements necessary for the ESP to work. During normal operations, the enclosure, including the ash collection hoppers, must remain hot at all times. If not, the moisture will condense out and cause the ash particles to stick to the surfaces. The moisture will also mix with the $SO_x$ (various forms of sulfur oxides) forming acids, and oxygen, and metal to form rust. When the flue gas enters the precipitator enclosure, it passes through a perforated plate that distributes the gas flow through the precipitator, which makes more efficient use of the available space. Because temperature is an important parameter it has been chosen as a performance indicator to the ESP operation and will be continually monitored to maintain the range at a daily average below 290°F.

Total ESP Powers

The simple explanation of an ESP operation is equipment contains essentially two pieces of material, one with a significant negative charge or excess of electrons, and the other grounded. The voltage between the two pieces could range from thousands to a hundred thousand volts. As a particle approaches the negatively charged part (wire in Corette's case), it picks up an electrical charge or excess of electrons. Because the basic principle of an ESP operation is based on the electric change it leads to the performance indicator in terms of voltage. PPL has chosen to monitor on a continuous basis an indicator range for total ESP powers at a daily average above 150 kVA,

Coal Ash Content

Since the efficiency of the ESP depends on its ability to charge particles and help them migrate towards the collection plate, the ability of a particle to accept a charge is very important. This is referred to as resistivity or resistance to current flow. If the flyash particle will not accept a charge (high resistivity) it will not migrate to the collection plate and will not be removed from the gas stream. The ability of a particle to accept a charge depends on several things including the sulfur (especially $SO_3$), sodium, calcium and magnesium, and temperature. There are also other influencing factors. Sulfur, sodium, and high temperature lower resistivity while calcium, magnesium and low temperature raise resistivity. These elements are found in the coal being burned so the resistivity of the flyash depends and varies with the coal supply. In some cases it is necessary to add $SO_3$ or other compounds to the coal or flue gas to improve precipitator performance. These are very common practices. Thus PPL has chosen to continuously monitor the ash content of the coal with a performance indicator range of a daily average <10 lb/MMBtu coal ash content.



## Appendix L Mercury Emissions Monitoring System (MEMS)

MEMS

a. 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.H.16.

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 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 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 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) The monthly average lb/TBtu mercury emission rate for each month of the quarter;

(b) 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) The total heat input to the boiler (in TBtu) for each 12-month rolling period 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.H.16.

(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, *et seq*.

(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.