

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division
1520 E. Sixth Avenue
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PPL Montana, LLC
JE Corette Steam Electric Station
Section 2, Township 1 South, Range 26 East, Yellowstone County, Montana
301 Charlene St.
P.O. Box 30495
Billings, MT 59107

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 5, Method 6, Method 9
Ambient Monitoring Required		X	
COMS Required	X		OP2953-05 Appendix E
CEMS Required	X		OP2953-05 Appendix F and Appendix G
Mercury Emissions Monitoring System (MEMS) Required	X		
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		As Applicable
Monthly Reporting Required		X	
Quarterly Reporting Required	X		
Applicable Air Quality Programs			
ARM Subchapter 7 Montana Air Quality Permit (MAQP)	X		MAQP #2953-00
New Source Performance Standards (NSPS)		X	40 CFR 60, Subpart D
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	No, Except for 40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR) – includes Prevention of Significant Deterioration (PSD) and/or Non-attainment Area (NAA) NSR	X		Facility is a major stationary source, but has not gone through NSR permitting
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV	X		OP2953-05, Appendix H
Compliance Assurance Monitoring (CAM)	X		OP2953-05, Appendix K
State Implementation Plan (SIP)	X		General SIP and SO ₂ SIP, Appendix I

TABLE OF CONTENTS

SECTION I. GENERAL INFORMATION.....	3
A. PURPOSE.....	3
B. FACILITY LOCATION	3
C. FACILITY BACKGROUND INFORMATION	3
D. CURRENT PERMITTING ACTION	4
E. TAKING AND DAMAGING ANALYSIS.....	4
F. COMPLIANCE DESIGNATION	5
SECTION II. SUMMARY OF EMISSION UNITS	6
A. FACILITY PROCESS DESCRIPTION	6
B. EMISSION UNITS AND POLLUTION CONTROL DEVICE IDENTIFICATION	6
C. CATEGORICALLY INSIGNIFICANT SOURCES/ACTIVITIES	6
SECTION III. PERMIT CONDITIONS	7
A. EMISSION LIMITS AND STANDARDS	7
B. MONITORING REQUIREMENTS	8
C. TEST METHODS AND PROCEDURES.....	8
D. RECORDKEEPING REQUIREMENTS	8
E. REPORTING REQUIREMENTS	9
F. PUBLIC NOTICE	9
G. DRAFT PERMIT COMMENTS	9
SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS	11
SECTION V. OTHER CONSIDERATIONS.....	12
A. MACT STANDARDS	12
B. NESHAP STANDARDS	12
C. NSPS STANDARDS	12
D. RISK MANAGEMENT PLAN.....	12
E. COMPLIANCE ASSURANCE MONITORING PLAN	12

SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the Title V Operating Permit modification application submitted to the Department of Environmental Quality (Department) on December 31, 2008. Conclusions in this document are also based on information gathered from the original application submitted by Montana Power Company (MPC) on June 12, 1996, and additional submittals on December 20, 1996, October 7, 1996, July 21, 1997, October 1, 1997, and December 21, 1999. Requests for administrative amendments were submitted on January 17, 2003, and February 14, 2003, (OP2953-02), and October 9, 2003, (OP2953-03). The request for renewal was submitted on August 4, 2003, with additional information received on April 16, 2004 (OP2953-04).

B. Facility Location

The PPL Montana, LLC (PPL) JE Corette facility is located in Section 2, Township 1 South, Range 26 East, Yellowstone County, Montana.

C. Facility Background Information

Montana Power Company began operation of the Corette Plant in September 1968. The construction and operation of the plant began prior to the implementation of the Montana air quality regulations. No preconstruction permit was required. Since 1968, Montana Air Quality or preconstruction permitting has not been triggered at the facility based on any changes resulting in an increase of 25 tons per year or more emissions. However, new mercury control requirements implemented under the preconstruction permitting program have required that PPL obtain a Montana Air Quality Permit (MAQP) to include mercury provisions under the Administrative Rules of Montana (ARM) 17.8.771 for the Corette Plant.

Permit #OP2953-00 was issued effective on January 1, 1999.

On June 18, 1999, the Department was initially notified the JE Corette facility would be sold by Montana Power Company (MPC) to the Pennsylvania Power & Light Global (PP&L). This correspondence stated that the expected closing would occur around September 2, 1999; however, subsequent phone conversations revealed the closing would be postponed. On December 21, 1999, the Department received final notice concerning closing of the sale for the JE Corette facility in Billings Montana. The signing of contracts transferring ownership to PP&L took place on December 17, 1999. An administrative amendment was issued effective December 29, 1999, to transfer Permit #OP2953-00 from MPC to PP&L. **Permit #OP2953-01** replaced Permit #OP2953-00.

On January 17, 2003, and February 14, 2003, administrative amendment requests were submitted to change the responsible official for the facility from Carlton Grimm to James Parker and to change the facility name from Pennsylvania Power & Light Montana, LLC to PPL. **Permit #OP2953-02** replaced Permit #OP2953-01.

On October 9, 2003, the Department received a request from PPL for an administrative amendment of OP2953-02 to update Section V.B.3 of the General Conditions incorporating changes to federal Title V rules 40 CFR 70.6(c)(5)(iii)(B) and 70.6(c)(5)(iii)(C) (to be incorporated into Montana's Title V rules at ARM 17.8.1213) regarding Title V annual compliance certifications. **Permit #OP2953-03** replaced Permit #OP2953-02.

On August 4, 2003, the Department received an application for the renewal of Title V Operating Permit #OP2953-03. Additional information was received by the Department on April 16, 2004. The permit was updated to reflect current Department regulations, rule citations, and permit format. **Permit #OP2953-04** replaced Permit #OP2953-03.

D. Current Permitting Action

On December 31, 2008, PPL sent an application to the Department requesting a modification to Permit #OP2953-04 to include mercury emission limitations under ARM 17.8.771. The mercury control rule is implemented through the MAQP program and required that PPL obtain an MAQP to establish a mercury emission limit and associated operating requirements for the boiler. On April 9, 2009, the Department issued MAQP #2953-00 with mercury limits and operating requirements.

On February 3, 2009, PPL sent a letter to the Department requesting that Steve Christian be designated as an Alternate Responsible Official.

Permit #OP2953-04 was updated to reflect the new mercury control requirements and the new Alternate Responsible Official. **Permit #OP2953-05** replaces Permit #OP2953-04.

E. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

F. Compliance Designation

The Corette facility was last inspected on October 23, 2007. A Full Compliance Evaluation was conducted on November 19, 2007. The facility was found to be in compliance with all applicable requirements.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

One tangential coal fired boiler and associated equipment for the generation of electricity.

B. Emission Units and Pollution Control Device Identification

Emission 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	Water on Conveyor No.3; covered conveyors, telescopic chute; or dust collectors
EU4	Coal Storage Piles	None
EU5	Gasoline Storage Tank	None
EU6	Internal Combustion Engines	None
EU7	JE Corette Boiler	Electrostatic precipitator; mercury oxidizer/sorbent
EU8	Plant Roads	Washed and cleaned
EU9	Process Ponds	Wet material
EU10	Diesel Tank	None
EU11	Mercury Oxidizer/Sorbent Handling System	Bin vent filter

C. Categorically Insignificant Sources/Activities

The following is a list of the emission units that are included as insignificant in this operating permit.

Emission Unit ID	Description
EU11	Process Tank Vents
EU12	Carbon Dioxide System Safety Valves and Vents

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

The following is a discussion of some applicable requirements.

1. On February 28, 1985, the Montana Department of Health and Environmental Sciences (now enforced by the Montana Department of Environmental Quality) issued a Notice of Violation/Order to Take Corrective Action for violations of ARM 16.8.1402 (now ARM 17.8.309). The particulate matter emissions from the Corette plant were in excess of those allowed by the regulation. The order required MPC to submit a compliance plan. The plan was submitted on July 16, 1985, and called the Operation Modification Plan. The plan has been revised three (3) times and is now in Revision 4. The plan outlines the opacity values, which are applicable requirements and are used to demonstrate compliance with the particulate limit on a continuous basis. Method 5 testing is used periodically to demonstrate compliance.

The Operation Modification Plan-Revision4 Appendix contains the plan itself, the Procedures Manual for Opacity Accuracy audit (part of Appendix III), and Appendix IV of the plan. The other portions of Appendix III contain data used to develop the plan and are not part of the operating permit. The data is contained in the JE Corette facility files and is dated December 14, 1989. Appendix I and II also contain data used to develop the relationship between opacity and particulate emissions and are not included in the operating permit. This data can be found in the files dated April 20, 1988.

The Department added language to the reporting requirement in Section III.H.43: “except that reports shall only be required on a quarterly basis,” to allow for quarterly instead of monthly reporting of opacity exceedances and QA/QC information.

Also, as part of the review of the Operation Modification Plan-Revision 4 and subsequent correspondence, the Department added the following language to Section III.H.19 to address ESP trips.

“As an addendum to the Operation Modification Plan-Revision 4 Appendix, the permittee 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 the appropriate corrective actions contained in the Operation Modification Plan-Revision 4 Appendix needs to be initiated.”

This language addresses the issue raised in April 1994 concerning interpretation of the plan.

2. On August 19, 1996, the Board of Environmental Review issued an order to MPC, which included a signed stipulation. The order adopted revisions to the MPC control strategy for attainment and maintenance of the SO₂ National ambient Air Quality Standard for the Billings/Laurel Area. The emissions limits and methods of demonstrating compliance are applicable requirements for operating permit purposes. EPA approved the Billings/Laurel SO₂ Control Plan into the SIP on May 2, 2002, for an effective date of June 2, 2002.
3. New mercury control requirements implemented under the preconstruction permitting program have required that PPL obtain a Montana Air Quality Permit (MAQP) to include mercury provisions under the Administrative Rules of Montana (ARM) 17.8.771 for the Corette Plant. On April 9, 2009, the Department issued MAQP #2953-00 with the following mercury limits and operating requirements, which are also reflected in Permit #OP2953-05:
 - 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).

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

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for a insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

The Department has determined for the fugitive emission units located at the facility to require bi-monthly visual inspections. The method of demonstrating compliance includes a requirement to observe specific sites and to log the information. The log will be kept at the plant site and be available for review during inspections. For certification, the permit requires verification the visual inspections were performed and the log was maintained. The Department intends this to mean PPL will be responsible for making sure the activities have occurred and including a statement in the certification identifying that the required monitoring has been completed and the log exists.

C. Test Methods and Procedures

All source test recordkeeping shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual.

The mercury limit will be monitored using a Mercury Emission Monitoring System (MEMS) pursuant to Appendix L.

D. Recordkeeping Requirements

PPL is required to keep all records listed in the Title V Operating Permit as a permanent business record for at least five years following the date of the generation of the record. All source test recordkeeping shall be performed in accordance with the Montana Source Test Protocol and Procedures manual. If Method 9 tests are conducted, the test reports must be maintained on-site and must be submitted to the Department upon request.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit, and Section V of the Operating Permit “General Conditions” explains the reporting requirements. However, PPL is required to submit semi-annual and annual monitoring reports to the Department, and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limits and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation. PPL is also required to submit quarterly reports as required by Section III.B., Section III.C., Appendix H, and Appendix L of #OP2953-05.

F. Public Notice

In accordance with ARM 17.8.1232, a public notice was published in the *Billings Gazette* newspaper on June 4, 2009. The Department provided a 30-day comment period on the Draft Operating Permit from June 4, 2009, to July 6, 2009. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process. The comments and issues received by July 6, 2009, are summarized along with the Department’s responses, in the following table.

Summary of Public Comments

Person/Group Commenting	Comment	Department Response
	No comments were received.	

G. Draft Permit Comments

Summary of Permittee Comments

Permit Reference	Permittee Comment	Department Response
TRD, pg. 6, Section B, Emission Unit EU1, Ash Handling System, Pollution Control Device/Practice.	Replace “wetting at load-out chute” with “dustless ash loading system”. See 12/31/08 amendment application.	The Department has changed the language as requested.
TRD, pg. 7, Section A.2.	EPA approval of Montana SIP. We believe the language in this section may need to be updated to reflect the current status of EPA’s SIP approval. It is our understanding that in 2002, EPA approved the portion of the Montana SIP dealing with Corette.	EPA approved the Billings/Laurel SO ₂ Control Plan into the SIP on May 2, 2002, for an effective date of June 2, 2002. The language has been revised to reflect this current status of the Montana SIP.
OP, pg. 1, Primary SIC Code.	According to the US Census Bureau, the Standard Industrial Classification (SIC) coding system was replaced in 1997 by the North American Industrial Classification System (NAICS) coding system. Corette’s NAICS code is 221112. We encourage the Department to adopt the NAICS code designation for Corette.	The Department has added the NAICS code to the SIC code on page 1.
OP, pg. 2, Summary of Emission Unit Table, Emission Unit EU1, Ash Handling System, Pollution Control Device/Practice.	Replace “wetting at load-out chute” with “dustless ash loading system”. See 12/31/08 amendment application.	The Department has changed the language as requested.

OP, pg. 6, Section B, Emitting Unit EU1, Ash Handling System, Compliance Demonstration Method.	Replace “use of water” with and load-out chute skirt with “use of dustless ash loading system”.	The Department has changed the language as requested.
OP, pg. 15, Section H.EU7 – JE Corette Boiler, Sixth Row, Sulfur in Fuel, Compliance Demonstration Method.	JE Corette was recently place on “interruptible” status by its natural gas supplier. JE Corette has therefore procured an offsite, back-up propane supply for use as startup fuel, to cover the contingency of its natural gas start-up fuel supply being interrupted. The propane supply will meet all applicable emissions related fuel standards.	The Department agrees that the propane supply will meet all applicable emissions related to fuel standards and has revised the language in the Section H table to accommodate use of propane.
OP, pg. 16, Conditions H.7-H11.	EPA approval of Montana SIP. We believe the language in these sections may need to be updated to reflect the current status of EPA’s SIP approval. It is our understanding that in 2002, EPA approved the portion of the Montana SIP dealing with Corette.	EPA approved the Billings/Laurel SO ₂ Control Plan into the SIP on May 2, 2002, for an effective date of June 2, 2002. The language has been revised to reflect this current status of the Montana SIP.
OP, pg. 17, Condition H14.	References to Early Election should be deleted. Corette did not adopt an Early Election NO _x standard.	The Department agrees and has removed the reference to early election.

Summary of EPA Comments

Permit Reference	EPA Comment	Department Response
	No comments were received.	

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

The Department reviewed the rules and regulations contained in Section 8 of the original application that PPL identified as non-applicable. The Department included those regulations, which it agreed were non-applicable to the Corette plant in the operating permit in Section IV along with the reasons for non-applicability.

The Department did not however identify all of the rules or regulations identified by PPL. Rules and regulations that identify procedural requirement and those that do not establish emission limits or applicable requirements on the facility were not included.

The following rules are not applicable to the facility due to date of construction being after the affected facility applicability date in the subparts: 40 CFR 60, Subpart D and Subpart Y.

The Department has also determined based on the information supplied that to date, no preconstruction permit has been required for the Corette facility based on changes to the facility that has triggered an increase in 25 tons per year or more since 1968. However, the facility now requires a preconstruction permit (i.e., MAQP) specific to mercury control because the facility is subject to mercury emission limitations under ARM 17.8.771. MAQP #2953-00 was issued on April 9, 2009, to establish a mercury emission limit and associated operating requirements for the boiler in order to comply with ARM 17.8.771.

SECTION V. OTHER CONSIDERATIONS

A. MACT Standards

As of the date of issuance of this permit, the Department is not aware of any future MACT standards that may be promulgated that will affect this facility.

B. NESHAP Standards

As of the date of issuance of this permit, the Department is not aware of any future NESHAPS standards that may be promulgated that will affect this facility.

C. NSPS Standards

As of the date of issuance of this permit, the Department is not aware of any future NSPS standards that may be promulgated that will affect this facility.

D. Risk Management Plan

As of the date of issuance of this permit, this facility does not have any substance listed in 40 CFR 68.115 or 40 CFR 68.130 that exceeds the minimum threshold quantities. Consequently, this facility is not required to submit a Risk Management Plan.

E. Compliance Assurance Monitoring Plan

In accordance with the Administrative Rules of Montana (ARM) Title 17, Chapter 8, Subchapter 15, a Compliance Assurance Monitoring (CAM) Plan applies to each pollutant-specific emitting unit at a major stationary source (Title V) if the affected unit is subject to a pollutant specific emission limitation or standard; the unit uses a control device to achieve compliance with the applicable limitation or standard; and the unit has a pre-control PTE the regulated pollutant in an amount that exceeds 100% of the Title V major source threshold.

The PPL Corette facility meets the above criteria for particulate matter (PM). Refer to Appendix K of Operating Permit #OP2953-05 for a summary of the PM CAM plan.