

STATEMENT OF BASIS

To: Reviewers

Through: Michael Stoll, Operating Permit Program Manager 

From: Melissa Meares, Air Quality Engineer

Subject: Draft Operating Permit 3-2-148, PacifiCorp Energy, Dave Johnston Plant

Date: December 6, 2007 (*Addendum May 21, 2008*)

Introduction:

Attached is the draft Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 3 renewal operating permit for PacifiCorp Energy, Dave Johnston Plant. Dave Johnston is a coal fired steam-electric power generating facility. Sources of air pollution at the plant include four coal-fired boilers. Units 1 (112 megawatts), 2 (112 megawatts), and 3 (250 megawatts) are wall fired boilers. Unit 4 (360 megawatts) is tangentially-fired. Other sources consist of coal, lime, and fly ash handling facilities, and diesel-fired emergency equipment.

Particulate matter emissions from units 1, 2, and 3 are controlled by electrostatic precipitators (ESPs). Particulate matter and sulfur dioxide emissions from unit 4 are controlled with a venturi wet scrubber. Particulate matter emissions from coal, lime, and fly ash handling facilities are controlled by baghouses, cyclone dust collectors, or chemical and water dust suppression systems. Fugitive emissions from coal stockpiles and unpaved trafficked areas around the plant are controlled with water and chemical dust suppressants.

Permitting History:

Waiver (4/12/93): allowed hazardous waste to be burned in unit 3. Waiver requirements include: burning to occur while the boiler is operating at or near the design firing rate; only RCRA types F001 and F003 plant generated waste may be burned; limits the maximum hazardous waste firing rate; hazardous waste burned must have a minimum heating value of 5,000 Btu/lb and shall not exceed 400 gallons per month; recordkeeping and submittal of records.

Waiver (6/10/93): allowed installation of baghouses for units 3 and 4 tripper decks (units 7B and 7E), and set opacity and particulate emission limits. An error was discovered in the hourly particulate limit from unit 7E. The correct particulate emission limit was administratively set in operating permit 30-148.

MD-201 (6/6/94): authorized modification of the coal handling facility. The permit was superseded by MD-377 listed below.

CT-1105 (9/6/94): was issued for the construction of a temporary portable crusher, haul road and conveying equipment to rebuild the permanent coal stockpile.

Waiver (10/3/96): allowed construction of a lime silo for the unit 4 scrubber system with emissions controlled by a baghouse (unit 13), and authorized the replacement of two crushers with a single crusher from which emissions would continue to be controlled by enclosed operation. Based on the information submitted by the permittee, a lb/hr particulate emissions limit for unit 13 was administratively applied during the issuance of operating permit 30-148-1.

Waiver (7/1/97): allowed an increase of the process rate of the track hopper 1R feeder, conveyor #1 and conveyor #11 from 900 tons/hr to 1200 tons/hr.

MD-377 (10/9/98): authorized modification of the coal yard. Particulate emissions were set for the five baghouses installed (units 7F, 7G, 7H, 7I, and 5D). The coal unloading system was determined to be subject to requirements of Subpart Y, and the maximum throughput of the coal unloading facility is limited to 4.5 million tons of coal per year.

MD-682 (11/5/01): was issued for the replacement of the existing feeders below the #1 and #3 ready piles with foam dust suppression for the belts and crushers associated with the #1, #2, and #3 ready piles. Visible emission limits were set for the conveyors and feeders associated with the #1 and #3 ready piles and this equipment was determined to be subject to the requirements of Subpart Y. Particulate and opacity emission limits were set for units 6A, 6B, 6C, 6D, 7A, 7C, and 7D.

Waiver AP-1116 (9/2/03): allowed for the addition of an on-line coal analyzer.

Waiver AP-4646 (5/3/06): authorized plant generated used oil, grease and petroleum sorbent materials to be burned in unit 3. The waiver requires the permittee to follow the applicable requirements of 40 CFR Part 266.108 and keep associated records.

Waiver AP-5781 (2/12/07): was issued for the replacement of unit 5D with a dust suppression spray system to control fugitive emissions from the coal belts and feeder associated with #2 ready pile. The waiver requires daily inspections to be conducted at each of the coal conveyor enclosures and transfer points, and monthly preventative maintenance for each of the coal conveyor enclosures and dust suppression spray systems. The approved preventative maintenance plan and daily inspection sheet are attached as Appendix A to the operating permit.

Applicable Requirements:

Applicable requirements include the conditions from the permits and waivers listed above, and the WAQSR Ch 3, Sec 2 visible emission limits. The coal handling sources are subject to the requirements found in 40 CFR 60 Subpart Y. The boilers are subject to the visible, particulate, SO₂ and NO_x standards of WAQSR Ch 3, Sections 2, 3, and 4. All four boilers are subject to Acid Rain requirements of 40 CFR Parts 72, 73, 75, 76, 77, and 78.

This facility is subject to the requirements of 40 CFR Part 63, Subpart ZZZZ, for Reciprocating Internal Combustion Engines (RICE). Affected sources under this subpart are any existing, new or reconstructed stationary RICE with a site rating of more than 500 hp. The 519 hp emergency diesel generator engine (unit 14) is the only affected source at the Dave Johnston Plant. Unit 14 is an existing emergency RICE and does not have to meet the requirements of Subpart ZZZZ.

Periodic Monitoring:

PacifiCorp installed continuous emission monitoring (CEM) systems on units 1, 2, 3, and 4 to measure emissions of SO₂, CO₂, O₂, NO_x, and stack gas flow to satisfy the Title IV Acid Rain provisions of the 1990 Clean Air Act Amendments. Continuous opacity monitors (COMs) were installed on units 1, 2, and 3. On 3/21/96 EPA granted exemption from the COM requirement for unit 4 (which is a wet stack). For periodic opacity monitoring on unit 4, a Method 9 certified opacity observer is required to evaluate visible emissions from the stack daily and conduct a Method 9 observation if emissions approach the limit for this source. A Method 9 observation is required at least once per quarter.

Units 1, 2, 3, and 4 are Phase II units under the Acid Rain Program and must operate in compliance with an Acid Rain Phase II Permit Application provided. The Phase II Permit provides NO_x limits and SO₂ allowances for each unit. Monitoring, recordkeeping, and reporting requirements are included in the Acid Rain Permit Application which is attached as an Appendix to the permit. Certified CEMs produce SO₂ and NO_x data for the Clean Air Marketing Division of EPA, and the State. All four units are included in PacifiCorp's NO_x averaging plan.

Weekly visible emissions observations will be conducted to monitor visible emissions from the baghouses and cyclone dust collectors not subject to compliance assurance monitoring (CAM). Weekly Method 22 observations will also be conducted on the conveyor and feeder equipment associated with each of the three ready piles. Periodic monitoring for the diesel fired emergency equipment consists of annual Method 9 observations and monitoring and maintenance according to the plan attached as an Appendix to the permit. Recordkeeping and reporting will serve as periodic monitoring for the burning of hazardous waste and fuel oil in unit 3, and for the coal throughput limit.

Compliance Assurance Monitoring:

CAM is required for particulate emissions from each of the boilers. For units 1, 2, and 3 the certified COMs will be used as an indicator of compliance. The opacity limit serves as an indicator of compliance with particulate emission limits under CAM. For unit 4, recirculation pump amperage serves as an indicator of compliance and is monitored continuously. Daily visible emission observations will be conducted for the baghouse and cyclone controlled sources (units 7B, 7E, 7F, and 7G) subject to CAM.

Addendum (May 21, 2008):

During the public comment period, the permittee requested that new equipment allowed by WAQSR Ch 6, Sec 2 Waiver AP-7225 (2/25/08) be added to the operating permit. Waiver AP-7225 authorizes operation of one 424 hp Cummins emergency diesel fire pump engine. The engine must be certified EPA Tier 2 and its operation is limited to 200 hours per year. The requirements of AP-7225 and visible emission limits of WAQSR Ch 3, Sec 2 are added to the draft operating permit.

As a result of public comments, a requirement for installation and certification of continuous emissions monitoring systems (CEMS) for mercury emissions has been added to the draft permit.

The draft permit is being re-noticed for public comment as a result of these additions.

