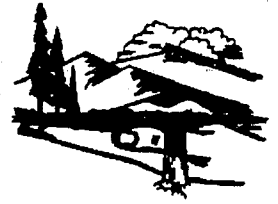




Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

October 15, 2007

Mr. Jerry Menge
Air Quality Program Coordinator
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58501

Permit No. CT-4631

Dear Mr. Menge:

The Division of Air Quality of the Wyoming Department of Environmental Quality has completed final review of Basin Electric Power Cooperative's application to construct a coal fired electric power generating station to be known as Dry Fork Station. The generating station will consist of one pulverized coal (PC) boiler rated at 385 MW (net) with associated material handling and auxiliary equipment and be located adjacent to the Dry Fork Mine on Highway 59, approximately 7 miles north northeast of Gillette, Campbell County, Wyoming.

Following this agency's proposed approval of the request as published February 26, 2007 and in accordance with Chapter 6, Section 2(m) of the Wyoming Air Quality Standards and Regulations, the public was afforded a 30 day period in which to submit comments concerning the proposed new source, and an opportunity for a public hearing. Public comments have been received and a public hearing on the proposal was held on June 28, 2007. On the basis of the information provided to us in the application and comments received during the public notice period and the public hearing, approval to construct Dry Fork Station as described in the application is hereby granted pursuant to Chapter 6, Section 2, Section 4, and Section 6 of the regulations with the following conditions:

1. Authorized representatives of the Division of Air Quality be given permission to enter and inspect any property, premise or place on or at which an air pollution source is located or is being constructed or installed for the purpose of investigating actual or potential sources of air pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.
2. All substantive commitments and descriptions set forth in the application for this permit, unless superseded by a specific condition of this permit, are incorporated herein by this reference and are enforceable as conditions of this permit.
3. As a major source, defined by Chapter 6, Section 3 (b)(xvii) of the WAQSR, Basin Electric shall file a complete application to obtain an operating permit within 12 months after commencing operations.
4. All notifications, reports and correspondence required by this permit shall be submitted to the Stationary Source Compliance Program Manager, Air Quality Division, 122 West 25th Street, Cheyenne, WY 82002 and a copy shall be submitted to the District Engineer, Air Quality Division, 1866 South Sheridan Avenue, Sheridan, WY 82801.



DEQ/AQD 003823

5. Owner or operator shall furnish the Administrator written notification of: (i) the anticipated date of initial startup not more than 60 days or less than 30 days prior to such date, and; (ii) the actual date of initial start-up within 15 days after such date in accordance with Chapter 6, Section 2(i) of the WAQSR.
6. The date of commencement of construction shall be reported to the Administrator within 30 days of such date. The permit shall become invalid if construction or modification is not commenced within 24 months of the date of permit issuance or if construction is discontinued for a period of 24 months or more in accordance with Chapter 6, Section 2(h) of the WAQSR. The Administrator may extend such time period(s) upon a satisfactory showing that an extension is justified.
7. Performance tests shall be conducted within 30 days of achieving maximum design rate but not later than 90 days following initial start-up in accordance with Chapter 6, Section 2(j) of the WAQSR. If maximum design production rate is not achieved within 90 days of start-up, the Administrator may require testing at the rate achieved and again when maximum rate is achieved.
8. Prior to any performance testing or monitor certification testing required by this permit, a test protocol shall be submitted to the Division for approval, at least 30 days prior to testing. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results of the tests shall be submitted to this office within 45 days of completing.
9. Emission rates shall not exceed levels in the following tables. The lb/MMBtu, lb/hr and tpy emission limits apply at all times including periods of startup and shutdown.

PC Boiler (ES1-01) Allowable Emissions

Pollutant	lb/MMBtu	lb/MW-hr	lb/hr	tpy
NO _x	0.05 (12 month rolling)	1.0 (30-day rolling) ¹	190.1 (30-day rolling)	832.4
SO ₂	0.070 (12 month rolling)	1.4 (30-day rolling) ¹	380.1 (3-hr block) 285.1 (30-day rolling)	1165.4
PM/PM ₁₀	0.012 ²	—	45.6	199.8
CO	0.15	—	570.2 (30-day rolling)	2497
Hg	—	97×10 ⁻⁶ (12 month rolling) ¹	—	0.16
H ₂ SO ₄	0.0025	—	9.5	41.6
HF	—	—	2.62	11.5
VOC	0.0037	—	14.1	61.6
NH ₃	—	—	10 ppm _v ³ , 19.6 lb/hr	85.8

¹ NSPS Subpart Da Limit

² Filterable PM/PM₁₀

³ Dry Basis, 3% O₂

Auxiliary Boiler and Inlet Gas Heater Allowable Emissions

Unit No.	Emission Unit	NO _x (lb/MMBtu)	NO _x (lb/hr)	NO _x (tpy)	CO (lb/MMBtu)	CO (lb/hr)	CO (tpy)
ES1-02	134 MMBtu/hr Auxiliary Boiler ¹	0.04	5.4	5.4	0.08	10.7	10.7
ES1-06	8.36 MMBtu/hr Inlet Gas Heater ²	0.1	0.8	1.0	0.08	0.7	0.8

¹ Annual emissions based on 2,000 hours.

² Annual emissions based on 2,500 hours.

Material Handling PM/PM₁₀ Allowable Emissions

Unit No.	Emission Unit	gr/dscf	lb/hr	tpy
ES1-07	Coal Storage Silo 1 Dust Collector (13,704 dscfm)	0.005	0.6	2.6
ES1-08	Coal Storage Silo 2 Dust Collector (13,704 dscfm)	0.005	0.6	2.6
ES1-09	Coal Storage Silo 3 Dust Collector (8,849 dscfm)	0.005	0.4	1.7
ES1-10	Coal Crusher House Dust Collector (25,216 dscfm)	0.005	1.1	4.7
ES1-11	Plant Coal Silo Transfer Bay Dust Collector (27,408 dscfm)	0.005	1.2	5.1
ES1-12	Pebble Lime Receiving Silo Bin Vent Filter (728 dscfm)	0.005	0.03	0.1
ES1-13	Pebble Lime Day Silo Bin Vent Filter (1,001 dscfm)	0.005	0.04	0.2
ES1-14	Lime Hydrator Mixer Dust Collector No. 1 (4,698 dscfm)	0.005	0.2	0.9
ES1-15	Lime Hydrator Mixer Dust Collector No. 2 (4,698 dscfm)	0.005	0.2	0.9
ES1-16	Hydrated Lime Dust Collector No. 1 (16,380 dscfm)	0.005	0.7	3.1
ES1-17	Hydrated Lime Dust Collector No. 2 (16,380 dscfm)	0.005	0.7	3.1
ES1-18	Hydrated Lime Silo 1 Bin Vent Filter (1,729 dscfm)	0.005	0.07	0.3
ES1-19	Hydrated Lime Silo 1 Bin Vent Filter (1,729 dscfm)	0.005	0.07	0.3
ES1-20	Activated Carbon Silo Bin Vent Filter (728 dscfm)	0.005	0.03	0.1
ES1-22	Fly Ash/FGD Waste Silo Separator/Filter Exhaust (1,092 dscfm)	0.005	0.05	0.2
ES1-22	Fly Ash/FGD Waste Silo Bin Vent Filter (1,138 dscfm)	0.005	0.05	0.2

10. Mercury emissions from the PC Boiler shall be addressed as follows:

- A) A one year mercury optimization study shall be performed at this facility with a target emission rate of no more than 20×10^{-6} lb/MW-hr, 12 month rolling average. A protocol for the study shall be submitted the Division for review and approval prior to commencement of the study. The protocol shall include a description of control technique(s) to be employed including type of sorbent, if applicable, and proposed operational parameters (e.g. carbon injection rate), test methods, and procedures. The optimization study shall commence no later than 90 days after initial startup. The results of the study shall be submitted to the Division within 30 days of completion of the study.
- B) A mercury control system shall be installed and operated at this facility within 90 days of initial startup. This permit will be reopened to revise the mercury limit in condition 9 and/or add operational parameters to this condition based on the results of the mercury optimization study.

11. Opacity shall be limited as follows:
- A) Visible emissions from the PC boiler (ES1-01) shall be limited to 20% opacity (6-minute average) except for one 6-minute period per hour of not more than 27 percent opacity in accordance with NSPS, Subpart Da, 40 CFR 60.42Da(b).
 - B) Coal conveyors shall be operated and maintained such that the conveyor enclosures and transfer points exhibit no visible emissions in accordance with 40 CFR part 60, Appendix A, Method 22.
 - C) Opacity shall be limited to less than 20% from all coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems in accordance with NSPS, Subpart Y, 40 CFR 60.252(c) as determined by 40 CFR Part 60, Appendix A, Method 9.
 - D) Opacity from any other source of emissions at this facility shall be limited to 20% opacity in accordance with WAQSR, Chapter 3, Section 2(a) as determined by 40 CFR Part 60, Appendix A, Method 9.
12. Initial performance tests, required by Condition 7 of this permit, shall consist of the following:

PC Boiler (ES1-01):

- A) NO_x - 30 day rolling average - Initial testing and compliance determination shall follow 40 CFR 60.48Da, 60.49Da, and 60.50Da.
- B) SO₂ - EPA Method 6C or equivalent EPA Reference Methods shall be used to determine initial compliance with the SO₂ 3 hour emission limit. Tests shall consist of 3 runs of 3 hours each.
- C) SO₂ - 30 day rolling average/Percent Reduction Requirements - Initial testing and compliance determination shall follow 40 CFR 60.48Da, 60.49Da, and 60.50Da.
- D) PM/PM₁₀ - Testing shall follow 40 CFR 60.50Da to determine initial compliance with the lb/MMBtu limit established in this permit.
- E) Opacity - EPA Method 9 and the procedures in WAQSR, Chapter 5, Section 2(i) shall be used to determine initial compliance with opacity limits in this permit.
- F) CO - 30 day rolling average using certified CEM
- G) PC Boiler exhaust shall be tested at the PC Boiler Stack to determine total fluoride emissions following EPA Method 13A, 13B, or equivalent EPA Reference Methods. Results of the tests shall be reported in units of lb/hr.
- H) PC Boiler stack shall be tested to determine sulfuric acid mist (H₂SO₄) emissions following EPA Method 8 or equivalent EPA Reference Methods. Results of the tests

shall be reported in units of lb/hr. Sulfur dioxide (SO₂) emission rates shall be determined during the H₂SO₄ tests and reported.

Auxiliary Boiler (ES1-02) and Inlet Gas Heater (ES1-06):

- A) NO_x - Three 1-hour tests following EPA Reference Methods shall be employed to determine initial compliance with the lb/MMBtu and lb/hr NO_x emission limits established by this permit.
- B) CO - Three 1 hour tests following EPA Reference Methods shall be employed to determine initial compliance with the lb/MMBtu and lb/hr CO emission limits established by this permit.

Material Handling:

- A) PM/PM₁₀ - Three 1 hour tests following EPA Methods 1-5, front half only, shall be employed to determine initial compliance with the particulate emission limits established by this permit.
- B) Opacity - Testing for emission units not subject to 40 CFR 60, Subpart Y shall be conducted in accordance with WAQSR Chapter 6, Section 2(j) and shall consist of three (3) 6-minute averages of the opacity as determined by Method 9 of 40 CFR 60, Appendix A.

Testing for emission units subject to Subpart Y shall follow the requirements of Chapter 5, Section 2(i) of the WAQSR.

13. The following testing shall be performed in accordance with Conditions 7 and 8:

- A) PC Boiler Stack shall be tested to determine NH₃ emissions following EPA Conditional Test Method 27 (CTM-027) or equivalent methods. Results of the tests shall be reported in units of lb/hr and ppm_v on a dry basis corrected to 3 percent O₂.
- B) PC Boiler exhaust shall be tested at the PC Boiler Stack to determine hydrogen chloride emissions following EPA Method 26 or equivalent methods. Results of the tests shall be reported in units of lb/hr.
- C) PC Boiler exhaust shall be tested at the PC Boiler Stack to determine emissions of metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium) using EPA Method 29 or equivalent methods. Results of the tests shall be reported in units of lb/hr.
- D) PC Boiler exhaust shall be tested at the PC Boiler Stack to determine condensable particulate matter emissions with three 1 hour tests following EPA Reference Method 202. Results of the tests shall be reported in units of lb/hr.

14. Within 90 days of initial startup, the following in-stack continuous emission monitoring (CEM) equipment shall be used on the PC Boiler stack to demonstrate continuous compliance with the emission limits set forth in this permit:
- A) Basin Electric shall install, calibrate, operate, and maintain a monitoring system, and record the output, for measuring NO_x emissions discharged to the atmosphere in units of lb/MW-hr, lb/MMBtu and lb/hr. The NO_x monitoring system shall consist of the following:
 - i) A continuous emission NO_x monitor located in the PC boiler stack.
 - ii) A continuous flow monitoring system for measuring the flow of exhaust gases discharged into the atmosphere.
 - iii) A watt meter to measure gross electrical output in megawatt-hours on a continuous basis.
 - iv) An in-stack oxygen or carbon dioxide monitor for measuring oxygen or carbon dioxide content of the flue gas at the location NO_x emissions are monitored.
 - B) Basin Electric shall install, calibrate, operate, and maintain a SO₂ monitoring system, and record the output, for measuring emissions discharged to the atmosphere in units of lb/MMBtu and lb/hr. The SO₂ monitoring system shall consist of the following:
 - i) A continuous emission SO₂ monitor located in the PC boiler stack.
 - ii) A continuous flow monitoring system for measuring the flow of exhaust gases discharged into the atmosphere.
 - iii) An in-stack oxygen or carbon dioxide monitor for measuring oxygen or carbon dioxide content of the flue gas at the location SO₂ emissions are monitored.
 - C) Basin Electric shall install, calibrate, operate, and maintain a CO monitoring system, and record the output, for measuring emissions discharged to the atmosphere in units of lb/hr. The CO monitoring system shall consist of the following:
 - i) A continuous emission CO monitor located in the PC boiler stack.
 - ii) A continuous flow monitoring system for measuring the flow of exhaust gases discharged into the atmosphere.
 - iii) An in-stack oxygen or carbon dioxide monitor for measuring oxygen or carbon dioxide content of the flue gas at the location CO emissions are monitored.
 - D) Basin Electric shall install, calibrate, operate, and maintain a mercury CEM in accordance with 40 CFR 60 Subpart Da, and record the output, for measuring emissions discharged to the atmosphere in units of lb/MW-hr and lb/hr. As an alternative, Basin Electric may

use a sorbent trap monitoring in accordance with 40 CFR 60 Subpart Da and record emissions discharged to the atmosphere in units of lb/MW-hr and lb/hr.

- E) Basin Electric shall install, calibrate, operate, and maintain a monitoring system, and record the output, for measuring the opacity of the emissions discharged to the atmosphere.
- F) Each continuous monitor system listed in this condition shall comply with the following:
 - i) NSPS Subpart Da, Standards of Performance for Electric Utility Steam Generating Units (40 CFR 60.49Da).
 - ii) Monitoring requirements of WAQSR, Chapter 5, Section 2(j) including the following:
 - a) 40 CFR 60, Appendix B, Performance Specification 1 for opacity, Performance Specification 2 for NO_x and SO₂, Performance Specification 3 for O₂ or CO₂, Performance Specification 4 for CO and Performance Specification 12 for mercury. The monitoring systems must demonstrate linearity in accordance with Division requirements and be certified in both concentration (ppm_v) and units of the standard (lb/MMBtu, lb/MW-hr and lb/hr).
 - b) Quality Assurance requirements of 40 CFR 60, Appendix F.
 - c) Basin Electric shall develop and submit for the Division's approval a Quality Assurance plan for the monitoring systems listed in this condition within 90 days of initial startup.

15. Following the initial performance tests, compliance with the NO_x, SO₂, CO (lb/hr), Hg, and opacity limits for the PC Boiler set forth in this permit shall be determined with data from the continuous monitoring systems required by Condition 14 of this permit as follows:

- A) Exceedances of the limits shall be defined as follows:
 - i) Any 12 month rolling average which exceeds the lb/MMBtu NO_x or SO₂ limits as calculated using the following formula:

$$E_{avg} = \frac{\sum_{h=1}^n (C)_h}{n}$$

Where:

C = 1-hour average emission rate (lb/MMBtu) for hour "h" calculated using valid data from the CEM equipment required in Condition 14 and the procedures in 40 CFR 60, Appendix A, Method 19. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j).

E_{avg} = Weighted 12 month rolling average emission rate (lb/MMBtu)
 n = The number of unit operating hours in the 12 month period with valid emissions data meeting the requirements of WAQSR, Chapter 5, Section 2(j).

- ii) Any 30-day rolling average which exceeds the lb/MW-hr NO_x or SO₂ limits calculated in accordance 40 CFR 60.48Da, 60.49Da, and 60.50Da.
 - iii) Any 30-day rolling average calculated using valid data (output concentration and average hourly volumetric flowrate) from the CEM equipment required in Condition 14 which exceeds the lb/hr NO_x, SO₂, or CO limits established in this permit. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j). The 30-day average emission rate shall be calculated at the end of each boiler operating day (as defined in 40 CFR 60.41Da) as the arithmetic average of hourly emissions with valid data during the previous 30-day period.
 - iv) Any 3-hour block average of SO₂ calculated using valid data (output concentration and average hourly volumetric flowrate) from the CEM equipment required in Condition 14 which exceeds the lb/hr limit established in this permit. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j). The 3-hour average emission rate shall be calculated at the end of each 3-hour operating block as the arithmetic average of hourly emissions with valid data during the previous three operating hours.
 - v) Any 12 month rolling average of mercury (Hg) emissions which exceeds the lb/MW-hr limit calculated in accordance 40 CFR Part 60, Subpart Da.
 - vi) Any 6-minute average opacity, except for one 6-minute period per hour of not more than 27 percent opacity, in excess of 20 percent in accordance with 40 CFR 60.42Da(b).
- B) Basin Electric shall comply with all reporting and record keeping requirements as specified in WAQSR Chapter 5, Section 2(g) and 40 CFR Part 60, Subpart Da. All excess emissions shall be reported using the procedures and reporting format specified in WAQSR Chapter 5, Section 2(g). In addition, reporting and record keeping requirements for the 30-day rolling lb/MW-hr NO_x and SO₂ limits, the 12 month rolling Hg limit, and the opacity limit shall follow the requirements in 40 CFR 60.51Da and 60.52Da.
16. Basin Electric shall comply with the following maintenance and inspection requirements for the coal conveyors:
- A) Daily inspections shall be conducted at each of the coal conveyor enclosures and transfer points. Basin Electric shall utilize a daily check form to document daily inspections. A representative form shall be submitted to and approved by the Division prior to utilization. Upon approval, the form will be incorporated as part of the permit. The form may be revised without administratively amending the applicable permit, but revisions shall be approved by the Division prior to implementation.

- B) Basin Electric shall institute a monthly preventative maintenance plan for each of the coal conveyor enclosures. A representative plan shall be submitted to and approved by the Division prior to utilization. Upon approval, the plan will be incorporated as part of the permit. The monthly preventative maintenance plan may be revised without administratively amending the applicable permit, but revisions shall be approved by the Division prior to implementation.
17. Basin Electric shall comply with all applicable requirements of 40 CFR 60 Subpart Da for the PC Boiler.
18. Basin Electric shall comply with all applicable requirements of 40 CFR 60 Subpart Y for all coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems.
19. Basin Electric shall comply with all applicable requirements of 40 CFR 63, Subpart ZZZZ for the 2377 hp diesel emergency generator.
20. Basin Electric shall comply with all applicable requirements of 40 CFR 63, Subpart DDDDD for the 8.36 MMBtu/hr Inlet Gas Heater and 134 MMBtu/hr Auxiliary Boiler.
21. The 2377 hp diesel emergency generator and 360 hp diesel fire pump shall comply with the following:
- A) The emergency generator and fire pump shall be certified to meet U.S. EPA Tier II emission standards. Records of the certification shall be maintained and made available to the Division upon request.
- B) The emergency generator and fire pump shall each be limited to 500 hours of operation per year. Records documenting the annual operating hours shall be maintained and made available to the Division upon request.
22. Basin Electric shall use a wet handling system for ash/FGD waste load-out. The moisture content of the ash/FGD waste shall be maintained at a high enough concentration to prevent visible emissions from the haul trucks transporting the ash/FGD waste to the landfill. Basin Electric shall record and maintain records of the quantity of water supplied to the wet handling system and the quantity of ash/FGD waste loaded each calendar month. At the end of each calendar month, Basin Electric shall calculate the moisture content of the ash/FGD waste by dividing the mass of water used by the mass of ash/FGD waste and water combined. Ash/FGD waste shall be entirely enclosed in the haul trucks whenever the wet handling system is not operating. Basin Electric shall maintain records of dates that the wet handling system is not operating and whether or not haul trucks are covered.
23. Unpaved haul roads will be treated with suitable chemical dust suppressants in addition to water to control fugitive dust emissions. All treated roads will be maintained on a continuous basis to the extent that the surface treatment remains viable as a control measure.

24. Basin Electric shall comply with acid rain program regulations in WAQSR, Chapter 11, Section 2.
25. Records required by any applicable regulation or permit condition shall be maintained for a minimum period of five (5) years and shall be readily accessible to Division representatives.

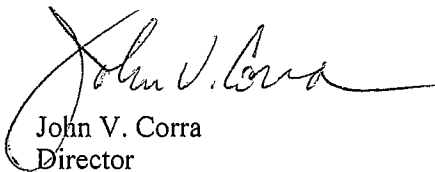
It must be noted that this approval does not relieve you of your obligation to comply with all applicable county, state, and federal standards, regulations or ordinances. Special attention must be given to Chapter 6, Section 2 of the Wyoming Air Quality Standards and Regulations, which details the requirements for compliance with conditions 3, 5, 6 and 7. Any appeal of this permit as a final action of the Department must be made to the Environmental Quality Council within sixty (60) days of permit issuance per Section 16, Chapter I, General Rules of Practice and Procedure, Department of Environmental Quality.

If we may be of further assistance to you, please feel free to contact this office.

Sincerely,



David A. Binley
Administrator
Air Quality Division



John V. Corra
Director
Dept. of Environmental Quality

cc: Mike Warren