West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-10900006-2007**
Application Received: **September 19, 2006**
Plant Identification Number: **03-054-109-00006**
Permittee: **Pinnacle Mining Company, LLC**
Facility Name: **Pinnacle Preparation Plant**
Mailing Address: **P.O. Box 338, Pineville, West Virginia 24874**

Physical Location:	Pineville, Wyoming County, West Virginia
UTM Coordinates:	456.10 km Easting • 4,155.40 km Northing • Zone 17
Directions:	At Pineville take Route 10 South approximately one mile, turn right onto Route 16 South, travel approximately one mile before turning left onto Pinnacle Creek Road.

Facility Description

The facility is a coal preparation plant which processes raw coal from an associated underground bituminous coal mine plus other raw coal sources. The preparation involves separating the higher ash reject and pyrite from the rest of the material, leaving a low ash and low sulfur coal. Operations at the plant include breaking, crushing, handling, screening, washing, and drying. The facility is characterized by NAICS and SIC codes 212112 and 1222, respectively.

Operating Scenarios

Thermal dryer TD1 can combust pulverized coal, natural gas, or methane alone or in combination. Information on fuel properties is presented for coal combustion only as this is the worst case pollutant emitting activity. Since no different applicable requirements apply to the different fuels, an alternative operating scenario was not applied.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]

Criteria Pollutants	Potential Emissions	2005 Actual Emissions (6)
Carbon Monoxide (CO)	178.14	105
Nitrogen Oxides (NO_X)	332.55	197
Particulate Matter ($PM_{2.5}$) (1)	151.86	
Particulate Matter (PM_{10}) (1)	274.12	
Total Particulate Matter (TSP)	341.13	116 (2)
Sulfur Dioxide (SO_2)	178.14	67
Volatile Organic Compounds (VOC)	185.93	94 (3)

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2005 Actual Emissions (6)
Benzene	2.32	1.32
Hexane	4.65	2.65
Hydrochloric acid	8.01	3.37
Aggregate HAPs (5)	17.6	8.67 (4)

(1) PM2.5 is a component of PM10, and PM10 is a component of TSP.

(2) Includes 0.010 ton of particulate-HAP.

(3) Includes 4.88 tons of VOC-HAP.

(4) Includes 3.78 tons of HAPs that are neither particulate nor VOC.

(5) The Aggregate HAPs also include the following HAPs, each at an emission rate less than 1.0 ton per year, some of which are considered PM or VOC: Lead, 2,2,4-Trimethylpentane, Antimony, Arsenic, Benzene, Beryllium, Biphenyl, Cadmium, Chromium, Cobalt, Cresols, Cumene, Ethylbenzene, Formaldehyde, Hydrogen Fluoride, Manganese, Mercury, Napthalene, Nickel, Phenol, POM, Selenium, Styrene, Toluene, Xylene. Exact PTEs for the HAPs are given in Attachment I in the renewal application.

(6) Actual emissions were taken from the 2006 Certified Emissions Statement Invoice.

Title V Program Applicability Basis

This facility has the potential to emit 178.14 tpy of CO, 332.55 tpy of NO_x, 274.12 tpy of PM_{10}, 178.14 tpy of SO_2, and 185.93 tpy of VOC. Due to this facility's potential to emit over 100 tons per year of any single criteria pollutant, Pinnacle Mining Company, LLC Preparation Plant is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR5	To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants and Coal Handling Operations
	45CSR6	Open burning prohibited.
	45CSR10	To Prevent and Control Air Pollution from the Emission of Sulfur Oxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation
	45CSR15	Emission Standards for HAPs pursuant to 40 C.F.R. 61
	45CSR16	NSPS pursuant to 40 C.F.R. Part 60
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 60 Subpart Y	Standards of Performance for Coal Preparation Plants
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 64	Compliance Assurance Monitoring
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit *(if any)*
R13-2183J	December 28, 2006	
R30-10900006-1996	April 22, 2002	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

1. Thermal Dryer
   a. 45CSR10 - *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides*
   The emission unit is subject to R13-2183J, B.3., and 45CSR§10-4.1. is applicable, and sets a concentration limit of sulfur dioxide for in-stack gas streams. There are five exceptions listed as 45CSR§10-4.1.a. through 45CSR§10-4.1.e. None of the first four exceptions (a. through d.) are applicable as these facilities are not the type of facility that the permittee operates. Furthermore, the permittee stated in the renewal application that the unit has the potential to emit more than 500 pounds per year of sulfur oxides; therefore, exception 45CSR§10-4.1.e. does not apply to the unit. Refer to permit condition 4.1.4.

   b. 40 C.F.R. 64 – *Compliance Assurance Monitoring*
   There are two (2) identical venturi scrubbers in parallel (Control Device IDs 001-2A, 001-2B), each of which controls emissions of particulate matter in the exhaust from the two (2) dryer cyclones (Control Device IDs 001-01A, 001-01B). As part of the CAM plan for control of particulate matter, the permittee monitors the thermal dryer exit temperature, the scrubber water supply pressure, and the pressure drop across the scrubber.

   While originally installed to control particulate matter, the venturi scrubbers also remove some of the sulfur dioxide from the dryer exhaust. Although the 45CSR10 stack concentration limit of 2,000 ppm (permit condition 4.1.4.) could be met without operating the scrubbers, the mass emissions limits of R13-2183J, A.4. (permit condition 4.1.2.) cannot be met without operating the scrubbers. The permittee is required by R13-2183J, condition A.3., to add 0.51 gpm of 20% sodium hydroxide (NaOH) solution to the scrubber water and/or the coal being dried if the dryer fuel coal sulfur content exceeds 1.22% by weight. The permittee is proposing a lower sulfur level for the CAM plan to provide a buffer to ensure they never have a violation of R13-2183J, A.4. Exceeding the proposed limit of 1.09 weight percent sulfur would constitute an excursion, but not a violation of R13-2183J, A.4. Thus, the permittee would have opportunity to take corrective action to address the excursion without being in violation of R13-2183J, A.4.

   The CAM plan for the control of sulfur dioxide includes monitoring of the scrubber water supply pressure, dryer fuel coal sulfur content, and addition rate of sodium hydroxide to the scrubber water and/or the coal being dried. Based upon 1996 performance testing the appropriate scrubber water supply pressure of 7-psig is also deemed appropriate for control of SO_2.

   The permittee has requested not to establish a QIP threshold with this permit renewal because 40 C.F.R. §64.8(a) does not require a QIP, and the facility desires to gain experience in operating under 40 C.F.R. 64. This approach would allow for a data supported basis for establishment in the future of an appropriate threshold rather than arbitrarily establishing one during this renewal.

   Since none of the monitoring equipment is new or modified, the permittee is not required to implement verification procedures to confirm the operational status of the monitoring as described in 40 C.F.R. §64.3(b)(2). The permittee has stated in technical correspondence that if monitoring equipment is modified or replaced with a new unit, then such equipment will be installed, calibrated, and operated in accordance with the manufacturer's recommendations, which will satisfy §64.3(b)(2). Recordkeeping and reporting pursuant to 40 C.F.R. 64 are in permit conditions 4.4.2. and 4.5.1., respectively.

Table 1 – Compliance Assurance Monitoring Approach for Thermal Dryer TD1 (Pollutant: PM)

		Indicator No.1 of 3	Indicator No.2 of 3 (1)	Indicator No.3 of 3
I.	Indicator	Dryer exhaust temperature	Scrubber water supply pressure	Scrubber inlet static pressure
	Measurement Approach	The temperature is measured with a thermocouple.	The pressure is measured with a pressure transducer.	The pressure is measured with a pressure transducer. The transducer monitors the static pressure at the scrubber inlet, which indicates the pressure drop across the scrubber venturi throat, mist eliminator, and short stack.
II.	Indicator Range	The appropriate temperature range is 170ºF to 240ºF. An excursion is defined as a 1-hour average temperature outside the range 170ºF to 240ºF (permit condition 4.2.1.). Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.10., 4.4.3., and 4.5.1.).	The minimum pressure is 7-psig. An excursion is defined as a 1-hour average pressure less than 7-psig (permit condition 4.2.2.). Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.10., 4.4.3., and 4.5.1.).	The appropriate range is a pressure drop of at least 18 in. w.c. (permit condition 4.2.3.) An excursion is defined as a 1-hour average pressure less than this value. Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.10., 4.4.3., and 4.5.1.).
	QIP threshold	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.
III.	Performance Criteria			
A.	Data Representativeness	The thermocouple is located in the plenum between the dryer exhaust fan and the scrubbers. The sensor must have an accuracy of ± 3 °F of the temperature being measured expressed in degrees Fahrenheit, (permit condition 4.2.1.).	The pressure transducer is installed in the scrubber water feed piping close to where the water is discharged into the scrubber.	The pressure transducer is installed in the scrubber inlet duct immediately upstream of the venturi throat. Its minimum accuracy is ± 1 inch w.c. (permit condition 4.2.3.).
B.	Verification of Operational Status	Not applicable for reasons discussed above.	Not applicable for reasons discussed above.	Not applicable for reasons discussed above.
C.	QA/QC Practices and Criteria	The thermocouple system calibrated minimally on a semi-annual basis (permit condition 4.2.1.): 1) The sensor by comparative measurement of known temperature, 2) The transmitter by NIST-traceable calibrator. The acceptance criteria is ± 3 °F.	The transducer system is calibrated minimally on a semi-annual basis (permit condition 4.2.2.). The transducer is accurate within ± 5 percent of the design water pressure. The permittee will periodically measure the water flow rate in conjunction with the pressure transducer calibration.	The transducer system is calibrated minimally on a semi-annual basis to known pressures (permit condition 4.2.3.). Acceptance criteria is ± 1 inch w.c.
D.	Monitoring frequency	Continuously sensing, measured several times per minute (permit condition 4.2.1.)	Continuously sensing, measured several times per minute (permit condition 4.2.2.)	Continuously sensing, measured several times per minute (permit condition 4.2.3.)
	Data Collection Procedure	A personal computer (PC) computes and displays 1-min. averages. The PC uses these 1-minute average values to compute a 1-hr. average and records the 1-hr. average (permit condition 4.2.1.)	A personal computer (PC) computes and displays 1-min. averages. The PC uses these values to compute a 1-hr. average and records the 1-hr. average (permit condition 4.2.2.)	A personal computer (PC) computes and displays 1-min. averages. The PC uses these values to compute a 1-hr. average and records the 1-hr. average (permit condition 4.2.3.)
	Averaging Period	One hour (permit condition 4.2.1.)	One hour (permit condition 4.2.2.)	One hour (permit condition 4.2.3.)

(1) Indicator No.2 for particulate matter is the same Indicator No.1 for sulfur dioxide.

Table 2 – Compliance Assurance Monitoring Approach for Thermal Dryer TD1 (Pollutant: Sulfur Dioxide)

		Indicator No.1 of 3 (1)	Indicator No.2 of 3	Indicator No.3 of 3
I.	Indicator	Scrubber water supply pressure	Dryer fuel coal sulfur content	NaOH addition rate
	Measurement Approach	The pressure is measured with a pressure transducer.	Coal sulfur content is analyzed by a commercial laboratory using ASTM procedures.	The NaOH addition rate will be measured using a meter pump.
II.	Indicator Range	The minimum pressure is 7-psig. An excursion is defined as a 1-hour average pressure less than 7-psig (permit condition 4.2.2.). Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.10., 4.4.3., and 4.5.1.).	Maximum sulfur content of 1.09 weight percent without NaOH addition, and 1.50 weight percent with NaOH addition to coal being dried or to scrubber (permit condition 4.2.4.). Exceeding the 1.09 percent value without adding NaOH, constitutes an excursion. Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.10., 4.4.3., and 4.5.1.).	Add 0.51 gpm of 20% NaOH solution when sulfur content exceeds 1.09 weight percent (permit condition 4.2.5.).
	QIP threshold	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.	Permittee requests not establishing a QIP in the permit renewal for reasons discussed above.
III.	Performance Criteria			
A.	Data Representativeness	The pressure transducer is installed in the scrubber water feed piping close to where the water is discharged into the scrubber.	Coal sample taken from cyclone. Analytical results are accurate within ± 0.1 weight percent (permit condition 4.2.4.).	A metering pump is installed in the NaOH solution feed line (permit condition 4.2.5.).
B.	Verification of Operational Status	Not applicable for reasons discussed above.	Not applicable for reasons discussed above.	Not applicable for reasons discussed above.
C.	QA/QC Practices and Criteria	The transducer system is calibrated minimally on a semi-annual basis (permit condition 4.2.2.). The transducer is accurate within ± 5 percent of the design water pressure. The permittee will periodically measure the water flow rate in conjunction with the pressure transducer calibration.	Commercial laboratory follows calibration procedures required by ASTM method (permit condition 4.2.4.).	The metering pump is calibrated monthly during NaOH addition by measuring the time to deliver a specified volume of the solution. Minimum accuracy is ± 0.1 gpm (permit condition 4.2.5.).
D.	Monitoring frequency	Continuously sensing, measured several times per minute (permit condition 4.2.2.)	Sample collected and analyzed daily (permit condition 4.2.4.).	Continuously sensing, measured several times per minute (permit condition 4.2.5.)
	Data Collection Procedure	A personal computer (PC) computes and displays 1-min. averages. The PC uses these values to compute a 1-hr. average and records the 1-hr. average (permit condition 4.2.2.)	Commercial laboratory provides analysis results daily (permit condition 4.2.4.).	A personal computer (PC) computes and displays 1-min. averages. The PC uses these values to compute a 1-hr. average and records the 1-hr. average (permit condition 4.2.5.)
	Averaging Period	One hour (permit condition 4.2.2.)	Daily (permit condition 4.2.4.)	One hour (permit condition 4.2.5.)

(1) Indicator No.1 for sulfur dioxide is the same Indicator No.2 for particulate matter.

The permittee proposed to perform semiannual calibration of the monitoring devices for the scrubber inlet static pressure (Indicator 3 of 3 for PM) and scrubber water supply pressure (Indicator 2 of 3 for PM, and Indicator 1 of 3 for SO_2), which is a more frequent schedule than the applicable annual schedule required by 45CSR5 Appendix 2.3. Furthermore, 45CSR5 Appendix 2.3. does not require annual recalibration of the temperature measuring device. But the permittee has proposed to perform semiannual calibration of the temperature measuring device in addition to the inlet static pressure and the water supply pressure. Therefore, compliance with the proposed semiannual frequency for all three indicators will be enforceable in accordance with 45CSR§30-

12.7., and will ensure compliance with 45CSR5 Appendix 2.3. for the scrubber inlet static pressure and scrubber water supply pressure. Refer to permit conditions 4.2.1., 4.2.2. and 4.2.3.

c. Stack testing for particulate matter
The most recent stack testing for PM emissions from the thermal dryer was conducted from September 23, 2002 through September 25, 2002. According to the permittee's test report, the average Method 5 PM emission concentrations were 0.0324 grs/DSCF and 0.0247 grs/DSCF for upstream and downstream measurements, respectively. Since these concentrations are less than 50% of the applicable limit 0.083 grs/DSCF (permit condition 4.1.8.), the next required PM testing prescribed by the schedule in permit condition 4.3.5. is five years since the last testing. Therefore, PM stack testing must be completed no later than September 25, 2007. This date is set forth as a requirement in permit condition 4.3.5.

2. Transfer Points, Conveyors, Breaker, Screen
Minor Modification 01 - The use of Screen OSS-1 (including associated Dump Hopper DHOS-2, and Conveyors OSC-1, OSC-2, and OSC-3) was to be discontinued under permit action MM01 for R30-10900006-1996. Therefore, this equipment will not be included in the Equipment Table of permit Section 1.0., and consistent with permit R13-2183J, references to this equipment will be removed from the previous Title V permit conditions referring to this equipment (permit conditions 5.1.1. and 5.1.3.).

3. Refuse Bin, Refuse Area, Refuse Stock Pile
Since there are several requirements in 45CSR5 which are specific to the control of refuse, the permit writer created a permit section (7.0.) for the refuse emission units. Thus, permit condition 7.1.10. was created by extracting it from the table given in permit condition 6.1.1. (contained in underlying requirement R13-2183J, condition A.7.). Compliance with permit condition 7.1.10. will be accomplished by recordkeeping set forth in permit condition 7.4.1.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- **Non-applicability of 40 C.F.R. 64 to certain control devices**
The control devices listed in the following table are not subject to 40 C.F.R. Part 64.

Description	Control Device ID	Rationale
Cyclones	001-01A 001-01B	These two cyclones pre-clean the thermal dryer exhaust gas before it enters the exhaust fan that pushes it through two (2) parallel venturi scrubbers (Control Device IDs 001-02A, 001-02B). Finer dried coal from the thermal dryer exhaust is removed by the cyclones. This dried coal reporting to the cyclones is used as fuel in the thermal dryer furnace because it is finer and thus requires less processing by the pulverized coal feed system. Because the cyclones are a critical part of the product recovery and furnace fuel system, they are deemed *inherent process equipment* in accordance with the definition in 40 C.F.R. §64.1, and therefore the cyclones do not require a CAM Plan.
Mixer Scrubber	004	This scrubber controls PM emissions from transfer points T16 (horizontal axis mixer), T17, and T18. According to the permittee's calculations in the application, the aggregate pre-control PTE for these three transfer points is 785 lb/yr + 7,513 lb/yr + 7,513 lb/yr = 15,811 lb/yr = 7.91 ton/yr. This is less than 100 ton/yr, and therefore is not a pre-control "major source". Therefore the Mixer Scrubber 004 is not subject to 40 C.F.R. 64.
Clean Coal Scrubber	0011	This scrubber controls PM emissions from transfer point T21. According to the permittee's calculations in the application, the aggregate pre-control PTE for this transfer point is 2,254 lb/yr. This PTE is less than 100 ton/yr, and therefore is not a pre-control "major source". Therefore the Clean Coal Scrubber 0011 is not subject to 40 C.F.R. 64.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: February 14, 2007
Ending Date: March 16, 2007

All written comments should be addressed to the following individual and office:

Denton B. McDerment
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Denton B. McDerment
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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Response to Comments (Statement of Basis)

No comments were received.