

Fact Sheet



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

Permit Number: **R30-08100015-2007**
Application Received: **November 20, 2006**
Plant Identification Number: **08100015**
Permittee: **Pocahontas Coal Company LLC**
Facility Name: **Affinity Preparation Plant**
Mailing Address: **109 Appalachian Drive
Beckley, WV 25801**

Physical Location: Midway, Raleigh County, West Virginia
UTM Coordinates: 479.90 km Easting • 4,173.7 km Northing • Zone 17
Directions: From Midway, take County Route 1 towards Affinity. Plant is approximately 1 mile from Midway.

Facility Description

Coal Mining, Preparation with Thermal Dryer, and Handling. SIC: 1222

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Criteria Pollutants	Potential Emissions	2006 Actual Emissions*
Carbon Monoxide (CO)	131.4	0
Nitrogen Oxides (NO _x)	44.24	0
Particulate Matter (PM ₁₀)	22.61	0
Total Particulate Matter (TSP)	76.16	0
Sulfur Dioxide (SO ₂)	490.56	0

Volatile Organic Compounds (VOC)	30.11	0
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions	2006 Actual Emissions*
Acetaldehyde	0.0125	0
Acetophenone	<0.01	0
Acrolein	<0.01	0
Benzene	0.0285	0
Benzyl Chloride	0.0153	0
Bromoform	<0.01	0
Carbon Disulfide	<0.01	0
2-Chloroacetophenone	<0.01	0
Chlorobenzene	<0.01	0
Chloroform	<0.01	0
Cumene	<0.01	0
2,4 – Dinitrotoluene	<0.01	0
Dimethyl Sulfate	<0.01	0
Ethyl Benzene	<0.01	0
Formaldehyde	<0.01	0
Hexane	<0.01	0
Methyl Ethyl Ketone	<0.01	0
Methyl Hydrazine	<0.01	0
Methyl Methacrylate	<0.01	0
Methylene Chloride	<0.01	0
Phenol	<0.01	0
Propionaldehyde	<0.01	0
Tetrachloroethylene	<0.01	0
Toluene	<0.01	0
1,1,1 – Trichloroethane	<0.01	0
Styrene	<0.01	0
Xylene	<0.01	0
Vinyl Acetate	<0.01	0

Hydrochloric Acid	0.3121	0
Hydrofluoric Acid	0.0378	0
Antimony	0.06	0
Arsenic	7.23	0
Beryllium	0.14	0
Cadmium	<0.01	0
Chromium	0.59	0
Cobalt	0.31	0
Lead	0.28	0
Manganese	0.46	0
Mercury	<0.01	0
Nickel	0.64	0
Selenium	0.14	0
<p><i>Some of the above HAPs may be counted as PM or VOCs.</i></p> <p><i>* - Plant has been idle since 1985</i></p>		

Title V Program Applicability Basis

This facility has the potential to emit 131.4 tons per year of CO and 490.56 tons per year of SO₂. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, Pocahontas Coal Company LLC 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	Control of particulate matter from coal preparation plants
45CSR6	Open burning prohibited.
45CSR10	Prevent and Control air pollution from the emission of sulfur oxides
45CSR11	Standby plans for emergency episodes.
45CSR13	
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 61	Asbestos inspection and removal
	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 (<i>if any</i>)
None		

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. 45CSR5 Control of Particulate Matter from Coal Preparation Plants.

Stockpiles, haulroads, and vehicular activity are exempted from opacity periodic monitoring. Under 45CSR5, all coal preparation plants and coal handling operations are required to be equipped with a fugitive dust control system as such the opacity standard applies facility-wide; however, as a practical matter emissions from stockpile wind erosion, haulroads, and vehicular activity are exempted from the requirement to periodically monitor opacity because of the nature of the emissions occurring over such a large area. This exemption does not apply to load-in or loadout from the stockpiles. The facility does have the duty to minimize dust generation and atmospheric entrainment from stockpiles, haulroads, and vehicular activity.

2. Periodic monitoring for particulate matter.

The periodic monitoring approach requires annual 40 CFR 60, Appendix A, Method 9 visible emission evaluations (Method 9 evaluation) for each emission unit subject to a visible emission requirement. If the results of such evaluations indicate that visible emissions are in excess of 50 percent of an allowable visible emission requirement for a given unit, a Method 9 evaluation will be conducted at least every 14 days for such unit. After three consecutive Method 9 evaluations indicate that visible emissions are at or below 50

percent of the applicable visible emissions requirement, annual Method 9 evaluations may resume.

The permittee is also required to conduct weekly 40 CFR 60, Appendix A, Method 22 visible emissions observations (Method 22 observations). If during these observations or at any other time, visible emissions appear to exceed 50 percent of the allowable visible emissions requirement, a Method 9 evaluation must be conducted within one month unless corrective action is taken and recorded. The permittee is required to keep appropriate records of all evaluations, observations, and corrective actions.

Based on the large number of equipment subject to the opacity standard (i.e. all coal processing, conveying, storage, transfer and loading equipment and associated fugitive dust control systems); the requirement for all coal preparation plants and coal handling operations to install, inspect and maintain fugitive dust control systems; and EPA's approval of similar provisions for other coal preparation plants, WVDAQ believes that the periodic monitoring approach for this facility is appropriate.

3. 45CSR5 Control of Particulate Emission from Coal Thermal Drying Operations.

The Affinity thermal dryer installed on January 1, 1972 has a volumetric flow rate less than 150,000 cubic feet per minute and therefore may only emit 0.0825 grains per cubic foot or less. For monitoring purposes the owner must install continuous monitoring devices to measure temperature, pressure loss through the venturi constriction of the scrubber, and the water supply pressure to the scrubber. The rationale for the monitoring devices is to insure proper combustion efficiency, correct pressure drop through the venturi constriction for maximum efficiency of particulate capture, and insure the scrubber sprays are not plugging.

Initial stack testing will establish instrument operating range parameters in which the thermal dryer will be operated to provide a reasonable assurance that the thermal dryer unit is in compliance with particulate loading limits. The following parameters will be recorded during the compliance test:

- a. Amount of coal burned and the amount of coal dried;
- b. Coal drying temperature and residence time in the dryer;
- c. Temperature of the gas stream at the exit of the thermal dryer;
- d. Flow rate through the dryer and converted to dry standard cubic feet;
- e. Water pressure to the control equipment; and
- f. Pressure loss of the inlet airflow to the scrubber. The pressure drop will be measured between the inlet airflow to the scrubber and outlet airflow of the scrubber, which is atmospheric loss through the venturi constriction of the control equipment.

By recording "a", "b", "c", and "d" above, the loading of the thermal dryer can be determined in order to establish operating parameter ranges. By recording "e" and "f" above, baseline operating conditions can be established to ensure efficiency of the control equipment.

4. 45CSR10 Control Limits of Sulfur Dioxide from Coal Preparation Plants.

It was determined through the agency that dryers are defined as manufacturing process source operations and not as "fuel burning units" within the definition and intent of Rule 10. With this rule interpretation, thermal dryers must comply with Rule 10 Section 4.1. To show compliance with 45CSR§10-4.1., the company shall conduct fuel sampling analysis of the coal on a monthly basis. Fuel sampling is a reasonable way of testing for sulfur content and is an acceptable testing method.

The thermal dryer at this facility is "stoker fired" and fuel usage is not easily measured. Therefore, by calculating SO₂ emissions using the maximum design heat input, the minimum gas flow rate in the stack, and actual sulfur content and actual Btu value of the sampled coal, compliance can be ensured at lower heat inputs and/or higher stack gas flow rates.

5. 40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

This facility has a pollutant specific emissions unit (PSEU) for sulfur dioxide (SO₂) meeting the applicability requirements of 40 C.F.R. §64.2 and therefore has submitted a CAM plan in accordance with the CAM rule.

The submitted plan meets the requirements of the CAM rule for the WSS Scrubber controlling SO₂ from the thermal dryer. The primary use of this scrubber is for particulate matter (PM) control. Its secondary function is for SO₂ control. Since the existing Title V permit specifies a continuous compliance determination method for PM emissions, including continuous measurement of pressure loss through the venturi constriction, continuous measurement of the water supply pressure to the control equipment, and continuous measurement of the temperature of the gas stream at the thermal dryer exit, the scrubber is exempt from 40 CFR Part 64 per §64.2(b)(vi) for PM.

Monitoring per the CAM Plan for SO₂ emissions will be as follows:

Note: The corresponding permit conditions are italicized in parentheses.

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator	Sulfur Dioxide loading limit (4.1.13.)	Maximum heat input - (4.3.7.)	Pressure Drop - (4.2.1.)	Water pressure - (4.2.1.)
Measurement Approach	Coal is sampled daily, composited, and analyzed monthly for sulfur and heat content. - (4.3.7.)	Fuel usage is continuously monitored and fuel samples are analyzed for heat content. - (4.3.7.)	Pressure drop is continuously monitored. - (4.2.1.)	Water pressure will be continuously monitored. - (4.2.1.)
II. Indicator Range	2,000 ppm Limit (4.1.13.)	112 MMBTU/hr. - (4.3.7.)	Indicator ranges will be established during initial stack test after start-up. Facility has been Idle since 1985. - (4.3.6.)	Indicator ranges will be established during initial stack test after start-up. Facility has been Idle since 1985. - (4.3.6.)
III. Performance Criteria				
A. Data Representativeness	500 grams of coal will be sampled from a point where a representative sample can be obtained and analyzed for sulfur content according to ASTM D3177-84. - (4.3.7.)	Fuel usage is continuously monitored and fuel samples are analyzed for heat content. - (4.3.7.)	Pressure drop measurements will be taken at the inlet of the scrubber and at a location between the scrubber and the mist eliminator- (4.2.1.)	Water supply pressure will be recorded before the scrubber. - (4.2.1.)
B. Verification of Operational Status	<i>Does not apply to existing non-modified monitoring equipment.</i>	<i>Does not apply to existing non-modified monitoring equipment.</i>	<i>Does not apply to existing non-modified monitoring equipment.</i>	<i>Does not apply to existing non-modified monitoring equipment.</i>
C. QA/QC Practices and Criteria	Sample preparation done according to ASTM method D2013-86. - (4.3.7.)	Fuel Analysis is done according to ASTM Method D5865. - (4.3.7.)	Calibration performed on the pressure drop recorder/monitor will be performed at least once annually. Accuracy is ± 1" H2O- (4.2.1.)	Calibration performed on the water pressure gauge as needed but at least once annually. Accuracy is ±5%. - (4.2.1.)
D. Monitoring Frequency	Once per day during normal operation - (4.3.7.)	Continuously monitored and total coal used is recorded at the end of each day. - (4.3.7.)	Pressure drop monitored continuously - (4.2.1.)	Water pressure monitored continuously. - (4.2.1.)
Data Collection Procedures	Coal samples are collected at a point where a representative sample can be obtained. They are prepared according to ASTM method D2013-86 - (4.3.7.)	Fuel usage is compiled at the end of each day - (4.3.7.)	Continuously recorded by strip chart, data converted to a 3-hour rolling average, and these results manually recorded once every 12 hours. - (4.4.2.)	Continuously recorded by strip chart, data converted to a 3-hour rolling average, and these results manually recorded once every 12 hours. - (4.4.2.)
Averaging Period	Coal samples are composited monthly - (4.3.7.)	Daily - (4.3.7.)	3-hour rolling average. (4.4.2.)	3-hour rolling average. (4.4.2.)

Non-Applicability Determinations

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

1. 40CFR60 Subpart Y – Standards of Performance for Coal Preparation Plants

The facility started all operations by 1972. Since the construction/modification was before October 24, 1974, the facility is not subject to this Subpart.

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: March 23, 2007

Ending Date: April 23, 2007

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

Mike Egnor
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

Mike Egnor
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Division of Air Quality
601 57th Street SE
Charleston, WV 25304
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Response to Comments (Statement of Basis)

Not applicable.