



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-1994D **After-the-Fact**
Plant ID No.: 005-00009
Applicant: Pine Ridge Coal Company, LLC
Facility Name: Big Mountain Preparation Plant
Location: Prenter, Boone County
SIC Codes: 1221 (Bituminous Coal & Lignite - Surface)
1222 (Bituminous Coal & Lignite - Underground)
NAICS Codes: 212111 (Bituminous Coal and Lignite Surface Mining)
212112 (Bituminous Coal Underground Mining)
Application Type: Modification
Received Date: July 18, 2014
Engineer Assigned: Dan Roberts
Fee Amount: \$2,000
Date Received: July 23, 2014
Complete Date: February 25, 2015
Applicant Ad Date: November 5, 2014
Newspaper: *Coal Valley News*
UTM Coordinates: Easting: 444.83 km Northing: 4206.641 km Zone: 17
Lat/Lon Coordinates: Latitude 38.005767 Longitude -81.628425 NAD83
Description: **After-the-Fact** modification include raw coal belt conveyors BC-18 and BC-19 rated at 600 TPH and 2,000,000 TPY and constructed in 2007 and clean coal belt conveyors BC-20, BC-21 and BC-22 rated at 700 TPH and 5,000,000 TPY and constructed in 1993. Remove Direct Ship area equipment consisting of truck dump bin B4, crusher RC3, conveyors BC8 and BC10, while relocated open storage pile OS7 to the Dorothy Deep Mine to store raw coal. Remove clean coal open storage pile OS5 and conveyors BC15 and BC17, which were previously permitted, but never constructed. Convert from old R13 individual permit format to revised and updated R13 individual permit boilerplate. Research the historical application files and develop a comprehensive and accurate equipment table with maximum hourly and annual throughputs and control devices. Correct typographical errors/mistakes that were discovered.

BACKGROUND

Pine Ridge Coal Company, LLC is currently operating their existing Big Mountain Preparation Plant under permit R13-1994B which was approved on December 17, 2001.

The applications previously submitted and permits issued were to Pine Ridge Coal Company. They changed their name to Pine Ridge Coal Company, LLC in August 2014.

Application R13-1994B was submitted on February 16, 2012, but then it was withdrawn on April 27, 2012.

DESCRIPTION OF PROCESS

Big Mountain Preparation Plant is a coal processing facility with associated storage areas, refuse impoundment, raw coal mines which feed the processing and handling systems and an associated train loadout system. This modification application was prepared and submitted to account for additional conveyors and their associated transfer points which were not accounted for in the last update to this facility in 2001. The emission points are being added after the fact and were to be believed to be overlooked in the last update to the permit due to a misunderstanding of what equipment was required to be listed as emission sources in the preparation plants. The belts associated with the Dorthy Mine Belt were thought to have been reflected in a permit revision in 2007; however, after reviewing the permitting history of the facility it was apparent that this was overlooked at the time. This facility has been shut down since January 2012. Therefore, this modification is an attempt to ensure that all emission sources are permitted and ready to start back up again in compliance if the facility should do so.

Raw Coal:

Raw coal is trucked to the facility on an unpaved haul-road (UPHR1) and dumped (T1) onto a bar grate (SC1) and then falls (T26) onto an open stock pile (OS2). The raw coal is then transferred (T2) to a conveyor belt (BC1) and then drops (T3) into a crusher (RC1) and is transferred (T4) to another conveyor belt (BC2). It then is transferred (T5) to conveyor belt (BC4).

There is also a conveyor belt (BC3) transporting raw coal from various other mines that is transferred (T6) onto conveyor belt (BC4) where the coal streams are combined with one another.

Conveyor belt (BC4) transfers (T7) the raw coal to an open stockpile (OS3). From OS3, the raw coal is transferred (T8) onto conveyor belt (BC5).

There is another conveyor belt (BC18) transporting raw coal from the Dorthy Mine. This coal is transferred to open stockpile (OS7), then transferred (T32) onto conveyor belt (BC19), and then transferred (T33) onto conveyor belt (BC5) combining the Dorthy Mine Coal and the existing raw coal stream.

From conveyor belt BC5, the raw coal is transferred (T17) to screen (SC3) where it is sized

then transferred (T29) onto conveyor belt (BC9) or transferred (T18) to refuse pile OS6. From open stockpile (OS6) refuse is loaded by a front-end loader (VA) into trucks (T35) where it is hauled away (UPHR1). From conveyor belt BC9, the raw coal is transferred (T11) into two 750 ton capacity bins (B1 and B2). Adjacent to the bins is an open stockpile (OS1) that is dumped into (T10) by trucks that use haul road (UPHR1). A front-end loader (VA) then takes coal from the stockpile and loads it (T10) into the two bins , B1 and B2. The coal then transfers (T12) to conveyor belt (BC6).

Clean Coal

From the wet wash circuit, the now cleaned coal is transferred from transfer points (T40 and T41) onto conveyor belt BC20. From BC20, clean coal is transferred (T42) to conveyor belt BC21 then transferred (T43) to conveyor belt BC22. Transfer (T44) delivers coal to clean coal stcker belt BC14, which then transfers (T19) coal to open stockpile OS4. OS4 then transfers (T22) coal to conveyor belt BC16, which then delivers coal to train load out bin B6 via transfer point T30. Once train cars are able to receive the clean coal, bin B6 transfers the coal to rail car via telescopic chute (T25).

Refuse

Refuse coal is delivered to conveyor belt BC12 from the wet wash process. The refuse is transferred (T15) from belt conveyor BC12 and into bin (B3). B3 transfers (T16) into a truck or conveyor belt BC13. BC13 transfers (T38) into bin (B5). From this bin, the refuse is loaded (T39) into a truck.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit applications R13-1994D, R13-1994B, R13-1994A and R13-1994 and any amendments thereto:

Equipment ID No.	Date of Construction, Reconstruction or Modification ¹	Description	Maximum Capacity		Control Device ²	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Device ²
Dorthy Mine Raw Coal Circuit								
BC18	C 2007	Dorthy Mine Belt Conveyor - receives raw coal from the Dorthy Deep Mine and transfers it to OS7	600	2,000,000	FE	B A	NA T31	NA MC
OS7	C 2007 M 2001	Raw Coal Open Storage Pile - maximum 10,000 ton capacity, 19,683 ft ² base area and 56' height ????? - receives raw coal from BC18, stores it and then an underground reclaim feeder transfers it onto BC19 (In permits R13-1994A and R13-1994B, OS7 was permitted as a direct ship stockpile - 10,000 ton capacity, 10,500 ASS vs 19,683 permit ft ² base area and 56' height - 500,000 TPY)	600	500,000	MC	B A	T31 T32	MC PE
BC19	C 2007	Belt Conveyor - receives raw coal from OS7 via an underground reclaim feeder and transfers it to BC5 (see Trucked Raw Coal Circuit below)	600	2,000,000	FE	B A	T32 T33	PE MC
Deep Mine Raw Coal Conveying								

Equipment ID No.	Date of Construction, Reconstruction or Modification ¹	Description	Maximum Capacity		Control Device ²	Associated Transfer Points		
			TPH	TPY		Location: B - Before A - After	ID. No.	Control Device ³
BC3	M 1996	Belt Conveyor - receives raw coal from various deep mines and transfers it to BC4 (see Trucked Raw Coal Circuit below)	3,000	3,000,000	PE	B A	NA T6	NA FE
Trucked Raw Coal Circuit								
SC1	M 1996	Bar Grate Screen - receives raw coal dumped from trucks, separates the large rocks and the coal drops onto OS2	600	2,000,000	MC	B A	T1 NA	MC NA
OS2	M 1996	Raw Coal Open Storage Pile - maximum 37,000 tons capacity, 47,086 ft ² base area and 86' height - receives raw coal from SC1, stores it and then underground reclaim feeders transfer it onto BC1	----	2,000,000	MC	B A	NA T2	NA FE
BC1	M 1996	Belt Conveyor - receives raw coal from OS2 and transfers it to RC1	600	2,000,000	FE	B A	T2 T3	FE FE
RC1	M 1996	Highwall Dump Roll Crusher - receives raw coal from BC1, crushes it from +6" to ½" and then deposits it onto belt conveyor BC2	600	2,000,000	FE	B A	T3 T4	FE FE
BC2	M 1996	Belt Conveyor - receives crushed raw coal from RC1 and transfers it back to BC4	600	2,000,000	PE	B A	T4 T5	FE FE
BC4	M 1996	Belt Conveyor - receives crushed raw coal from BC2 and deep mined raw coal from BC3 (see Deep Mine Raw Coal Conveying above) and transfers it to OS3	3,000	3,000,000	PE	B B A	T5 T6 T7	FE FE WS
OS3	M 2001 M 1996	Raw Coal Open Storage Pile - maximum 200,000 tons capacity, 145,026 ft ² base area and 151' pile height - receives raw coal from trucks, stores it and then underground reclaim feeders transfer it onto BC5	3,000 in 2,500 out	3,000,000 in 5,000,000 out	MC	B A	T7 T8	WS FE
BC5	M 1996	Belt Conveyor - receives raw coal from OS3 and transfers it to SC3	2,500	5,000,000	PE	B B A	T8 T33 T17	FE MC PE
SC3	M 2001 M 1996	Single Deck Screen - receives raw coal from BC5, classifies it and then deposits the +6" oversize refuse onto OS6 and the -6" coal onto BC9	2,500	5,000,000	PE	B A A	T17 T18 T29	PE PE PE
OS6	M 2001 M 1996	Screen Refuse Open Storage Pile - maximum 1,000 tons capacity, 4,241 ft ² base area and 26' pile height - receives +6" oversize refuse from SC3, stores it and then a front endloader transfers it to trucks for shipment to the refuse disposal area	250	250,000	PE	B A	T18 T35	PE MC
BC9	M 2001 M 1996	Belt Conveyor - receives sized raw coal from SC3 and transfers it to B1 or B2	2,500	5,000,000	PE	B A	T29 T11	PE WS
OS1	M 2001 M 1996	Raw Coal Open Storage Pile - maximum 62,000 tons capacity, 66,428 ft ² base area and 102' pile height - receives raw coal from trucks, stores it and then a front endloader transfers it to B1 or B2	600 in 300 out	3,000,000	MC	B A	T9 T10	MC MC
B1	M 1996	Raw Coal Dump Bin - maximum 750 tons capacity - receives sized raw coal from BC9 and raw coal from OS1 and then feeds it onto BC6	2,800 in 1,200 out	8,000,000	FE	B B A	T11 T10 T12	WS MC FE
B2	M 1996	Raw Coal Dump Bin - maximum 750 tons capacity - receives sized raw coal from BC9 and raw coal from OS1 and then feeds it onto BC6	combined	combined	FE	B B A	T11 T10 T12	WS MC FE
BC6	M 1996	Belt Conveyor - receives raw coal from B1 and B2 and transfers it to SC2	1,200	8,000,000	PE	B A	T12 T13	FE FE

Equipment ID No.	Date of Construction, Reconstruction or Modification ¹	Description	Maximum Capacity		Control Device ²	Associated Transfer Points		
			TPH	TPY		Location: B - Before A - After	ID. No.	Control Device ²
SC2	M 1996	Single Deck Screen - receives raw coal from BC6, classifies it from +6" to ½" and then deposits the oversize coal into RC2 and the undersize coal onto BC7	1,200	8,000,000	FE	B A A	T13 T14 T27	FE FE FE
RC2	M 1996	Double Roll Crusher - receives oversize raw coal from SC2, crushes it from +6" to ½" and then deposits it onto BC7	150	500,000	FE	B A	T27 T28	FE FE
BC7	M 1996	Belt Conveyor - receives sized raw coal from SC2 and RC2 and transfers it to the wet wash prep plant	1,200	8,000,000	PE	B A	T14 T28 T34	FE FE FE
Clean Coal Circuit								
BC20	C 1993	Belt Conveyor - receives clean coal from the wet wash circuit in the preparation plant and transfers it to BC21	700	5,000,000	FE	B B A	T40 T41 T42	FE FE FE
BC21	C 1993	Belt Conveyor - receives clean coal from BC20 and transfers it to BC22	700	5,000,000	FE	B A	T42 T43	FE FE
BC22	C 1993	Belt Conveyor - receives clean coal from BC21 and transfers it to BC14	700	5,000,000	FE	B A	T43 T44	FE FE
BC14	M 2001 M 1996	Belt Conveyor - receives clean coal from BC22 and transfers it to OS4	700	5,000,000	PE	B A	T43 T19	FE FE
OS4	M 2001 M 1996	Clean Coal Open Storage Pile - maximum 100,000 tons capacity, 91,360 PERMIT ft ² base area and 50' pile height - receives clean coal from BC14, stores it and then underground reclaim feeders transfer it onto BC16	700	5,000,000	MC	B A	T19 T22	FE FE
BC16	M 2001 M 1996	Belt Conveyor - receives clean coal from OS4 and transfers it to B6	700	5,000,000	PE	B A	T22 T30	FE FE
B6	M 2001 M 1996	Clean Coal Railcar Loadout Bin - maximum 150 tons capacity - receives clean coal from BC16 and loads it into railcars through a telescopic chute	700 in 4,000 out	5,000,000	FE	B A	T30 T25	FE TC
Refuse Circuit								
BC12	M 1996	Belt Conveyor - receives refuse from the wet wash circuit and transfers it to B3 or BC13	600	4,000,000	PE	B A	NA T15	NA FE
B3	M 1996	Refuse Truck Loadout Bin - maximum 200 tons capacity - receives refuse from BC12 and loads it into trucks for shipment to the refuse disposal area	600	4,000,000	FE	B A	T15 T16	FE PE
BC13	M 1996	Belt Conveyor - receives refuse from BC12 and transfers it to B5	600	4,000,000	PE	B A	T15 T38	FE FE
B5	M 1996	Refuse Truck Loadout Bin - maximum 300 tons capacity - receives refuse from BC12 and loads it into trucks for shipment to the refuse disposal area	600	4,000,000	FE	B A	T38 T39	FE PE

¹ In accordance with 40 CFR 60 Subpart Y, coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems constructed, reconstructed, or modified on or before April 28, 2008 shall not discharge gases which exhibit 20 percent opacity or greater.

² Control Device Abbreviations: FE - Full Enclosure; PE - Partial Enclosure; PW - Partial Enclosure with Water Sprays; WS - Water Sprays; CS - Water Spray with Chemical Suppressant; TC - Telescopic Chute; and N - None.

SITE INSPECTION

Fred Teel of the DAQ's Compliance and Enforcement Section performed a full on-site

Fact Sheet R13-1994D
Pine Ridge Coal Company, LLC
Big Mountain Preparation Plant

inspection on December 5, 2013. The facility was not in operation at the time of inspection. Mr. Teel noted that it appeared to be a long term shutdown. The inspection summary status code assigned to this facility was 91 - Temporary Shutdown.

Directions from Charleston, take I-77 S/I-64 E toward Beckley and travel 4.9 miles, take Exit 89 for WV-94 toward WV-61/Marmet/Chesapeake and travel 0.3 miles, turn right onto WV-94 (Lens Creek Road) and travel 9.8 miles, keep left at the fork to go on Coal River Road and travel 5.5 miles, turn right onto County Highway 5 (Seth/Prenter Road) and travel 0.2 miles, turn left to stay on County Highway 5 (Seth/Prenter Road) and travel approximately 9.3 miles passing through Prenter, turn left onto Little Jarrells Creek Road and travel approximately 0.6 miles to the facility.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haulroads are based on AP-42 Fifth Edition "Compilation of Air Pollution Emission Factors", Volume 1. Control efficiencies were applied based on "Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations." The emission factors for crushing/breaking and screening operations were obtained from the Air Pollution Engineering Manual - Air & Waste Management Association - June 1992. The calculations were performed by the applicant's consultant and were checked for accuracy and completeness by the writer.

The proposed modification will result in the following new estimated facility-wide potential to discharge controlled emissions:

- New Facility-wide Emissions - Pine Ridge Coal Company, LLC R13-1994D	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Open Storage Pile Emissions	1.02	4.48	0.48	2.11
Unpaved Haulroad Emissions	100.59	404.07	67.19	119.26
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	<i>101.61</i>	<i>408.55</i>	<i>67.68</i>	<i>121.37</i>
Point Source Emissions				
Equipment Emissions	128.53	131.14	60.41	61.64
Transfer Point Emissions	8.42	14.50	3.98	6.86
<i>Point Source Emissions Total (PTE)</i>	<i>136.95</i>	<i>145.64</i>	<i>64.39</i>	<i>68.50</i>
FACILITY EMISSIONS TOTAL	238.56	554.19	132.07	189.87

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the facility. The proposed modification of Pine Ridge Coal Company, LLC's wet wash coal preparation plant will be subject to the following state and federal rules:

45CSR5 *To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants and Coal Handling Operations*

The facility is subject to the requirements of 45CSR5 because it meets the definition of "Coal Preparation Plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity) and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed within application R13-1994D and any amendments thereto are in operation.

45CSR13 *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed modification is subject to the requirements of 45CSR13 because it will result in an increase in controlled emissions greater than six (6) pounds per hour and ten (10) tons per year of a regulated air pollutant (PM). The applicant has submitted an application for a modification permit. The applicant published a Class I legal advertisement in the *Coal Valley News* on November 5, 2014 and submitted \$1,000 for the application fee and \$1,000 for the NSPS fee.

45CSR16 *Standards of Performance for New Stationary Sources*
40 CFR 60 *Subpart Y: Standards of Performance for Coal Preparation and Processing Plants*

This existing wet wash coal preparation plant is subject to 40 CFR 60 Subpart Y because it was constructed and will be modified after October 24, 1974 and processes more than 200 tons of coal per day. The proposed modification includes the after-the-fact construction of five belt conveyors and one open storage pile, which are defined as affected facilities in 40 CFR 60 Subpart Y. Therefore, the proposed modification is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants.

The facility should be in compliance with: Section 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage systems, or coal transfer and loading systems processing coal constructed, re-constructed or modified on or before April 28, 2008) when the particulate matter control methods and devices proposed are in operation.

45CSR30 *Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, this wet wash coal preparation

plant is not listed in 45CSR30 subsection 2.26.b as one of the categories of stationary sources which must include fugitive emissions (open storage piles constructed or modified on or before May 27, 2009 and haulroads) when determining whether it is a major stationary source for the purposes of § 302(j) of the Clean Air Act. The facility's new potential to emit will be 68.50 TPY for PM₁₀ (open storage piles constructed or modified after May 27, 2009 and point sources combined), which is less than the 45CSR30 threshold of 100 TPY of a regulated air pollutant used to define a major stationary source. Therefore, the facility will be subject to 45CSR30 and remain classified as a Title V deferred non-major source.

The proposed modification of a wet wash coal preparation plant will not be subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

In accordance with 45CSR14 Major Source Determination, this wet wash coal preparation plant is not one of the 100 TPY stationary sources listed under the definition of "Major Stationary Source" in subsection 2.43.a. Therefore, it must have the potential to emit 250 TPY or more of any regulated pollutant to meet the definition of a major source in subsection 2.43.b. At the end of subsection 2.4.3, this facility is not listed in Table 1 - Source Categories Which Must Include Fugitive Emissions. So, fugitive emissions (from open storage piles constructed or modified on or before May 27, 2009 and haulroads) are not included when determining major stationary source applicability. The facility's new potential to emit will be 145.64 TPY for PM (open storage piles constructed or modified after May 27, 2009 and point sources combined), which is less than the 45CSR14 threshold of 250 TPY for a regulated air pollutant used to define a major stationary source. Therefore, the proposed modification is not subject to the requirements set forth within 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants that will be emitted from this facility are PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the nature and extent of the modifications proposed for this existing facility. This facility is located in Boone County, WV, which is currently in attainment for PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter). This facility is not a major source as defined by 45CSR14, therefore, an air quality impact analysis is not required.

MONITORING OF OPERATIONS

For the purposes of determining compliance, the applicant shall maintain certified daily and monthly records. An example form for tracking the annual amount of raw coal, clean coal and refuse throughput is included as Appendices A, B and C to Permit R13-1994D. An example form for tracking the amount of water applied through the water truck is included as Appendix D to Permit R13-1994D. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on site by the permittee for at least five (5) years and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this modification permit application indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a permit to Pine Ridge Coal Company, LLC for the modification of their existing Big Mountain Preparation Plant located near Prenter, Boone County, WV is hereby recommended.



Daniel P. Roberts
Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

March 13, 2015

Date