



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • Fax: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2484C After-the-Fact
Plant ID No.: 081-00012
Applicant: Pocahontas Coal Company LLC
Facility Name: East Gulf Preparation Plant
Location: Rhodell, Raleigh County, WV
SIC Code: 1221 (Bituminous Coal & Lignite - Surface)
NAICS Code: 212111
Application Type: Modification
Received Date: 10/20/09
Engineer Assigned: Dan Roberts
Fee Amount: \$300, \$1700
Date Received: 10/23/09, 4/1/10
Complete Date: 12/21/10
Applicant's Ad Date: 10/22/09, revised ad 3/17/10
Newspaper: *The Register-Herald*
UTM's: Easting: 474.916 km Northing: 4164.16 km Zone: 17
Description: After-the-Fact modification to do the following: add four new raw coal conveyors (RCC7, RCC8, RCC9, and RCC10) rated at 1,800 TPH and 5,300,000 TPY from an adjacent mine; remove the current requirement for fixed water sprays (75% control efficiency) along the haulroad and replace with a water truck applying water and a chemical suppressant (85% control efficiency); increase the round trip length of haulroad UPHR2 from 0.26 miles to 0.41 miles (after-the-fact); and delete haulroad UPHR3 from the Tommy Creek Mine because it is no longer being used. For conveyors RCC1 and CC1A, the control device was changed from PE to FE to correct a previous typographical error. Convert permit to the new boilerplate format. Develop an up-to-date comprehensive emissions unit table.

BACKGROUND

Pocahontas Coal Company LLC proposes to modify their existing wet wash coal preparation plant with a thermal dryer. The existing facility is located on County Route 33 (Coal City Road) approximately 3.4 miles from the intersection with State Route 16 and past Rhodell and almost to Killarney, Raleigh County, WV. Pocahontas Coal Company LLC is currently operating under permit R13-2484B approved on June 5, 2007.

Application R13-2484C was initially submitted as a Class II administrative update. However, upon initial review of the application, it was determined that it did not qualify as a Class II administrative update and should be a modification application. This application proposed changes at a wet wash coal preparation plant with a thermal dryer which is a Title V Major Source and PSD Major Source. The proposed new equipment (belt conveyors RCC7, RCC8, RCC9 and RCC10 rated at maximum throughput rates of 500 TPH and 5.3 MM TPY) will be subject to the recently revised 40 CFR 60 Subpart Y and the new sections and requirements must be incorporated into the draft permit. Also, the application requested to reduce the Method 22 observations in Title V permit R30-08100012-2007 from weekly to monthly. These required Method 22 observations were not contained in current Rule 13 permit R13-2484B. Additionally, the current fixed water sprays (control efficiency of 75% per current permit R13-2484B) which were required to be spaced no more than 15 feet apart along haulroad UPHR2 were proposed to be replaced with the use of a water truck (control efficiency of 70% per DAQ guidance). Because of these factors, the DAQ determined that the level of complexity of this application cannot be properly reviewed within the time frame of a Class II administrative update, involves the construction of equipment defined as affected facilities in the recently revised NSPS Subpart Y and that a notice and comment period for the draft permit should be provided to the U.S. EPA and general public.

In a letter dated January 22, 2010, the application was deemed to be incomplete and additional information and corrections were requested. Additional information was received via email from Jamie Jarrett on January 28, 2010, January 29, 2010 and February 1, 2010. In a letter dated March 8, 2010, the application was deemed to still be incomplete and additional information and corrections were requested. On March 12, 2010, a response was received with major corrections to the application and this was considered to be an application resubmittal. On March 17, 2010, the applicant published a revised Class I legal advertisement in *The Register Herald*. On March 22, 2010, an original affidavit of publication was received. On April 1, 2010, the DAQ received checks for an additional \$1,700 to be added to the \$300 previously received. A total of \$2,000 was submitted to pay for the \$1,000 application fee and \$1,000 NSPS fee.

In a letter dated August 12, 2010, the application was deemed to still be incomplete and additional information and corrections were requested. On August 16, 2010, the writer met with Nate Lanham and Leonard Womble at ERSG's office. On August 25, 2010, a response was received with corrections to the application.

On September 9, 2010, the DAQ held an internal meeting. On September 16, 2010, the DAQ hosted a meeting with Pocahontas Coal and ERSG at the DEP headquarters. On September 29, 2010, the DAQ held an internal meeting. On October 26, 2010, the writer met with Nate Lanham

and Leonard Womble at ERSG's office. On November 9, 2010, the writer met with Nate Lanham at ERSG's office. On December 9, 2010, the writer met with Leonard Womble. On December 21, 2010, the writer hosted a meeting with Nate Lanham at the DEP headquarters. There have been numerous phone calls, emails, etc. during this time also.

On December 21, 2010, the DAQ received a revised complete application package which proposed the following: add four raw coal conveyors (RCC7, RCC8, RCC9, and RCC10) rated at 1,800 TPH and 5,300,000 TPY from an adjacent surface mine; remove the current requirement for fixed water sprays (75% control efficiency) along the haulroad and replace with a water truck applying water and a chemical suppressant (85% control efficiency); increase the roundtrip length of haulroad UPHR2 from 0.26 miles to 0.41 miles; and delete haulroad UPHR3 because it is no longer being used. In a letter dated December 29, 2010, the application was deemed to be complete as of December 21, 2010.

HISTORY OF CHANGES AT THE FACILITY

- 1972 Added the coal fine circuit to the preparation plant's wet circuit. This included Heavy Media Cyclones and Froth Flotation circuits. Installed a Heyl & Patterson #80 Thermal Dryer (original design values 220 - 370 TPH as received - wet basis, with a 22 - 29 TPH evaporative load capacity).
- 1978 Additional truck Dump, Rotary Breaker, Raw Coal Storage Silo, Refuse Storage Bin, and Raw Coal Conveyors 1-3 and #5 were added to Preparation plant.
- 1982 Preparation Plant's Scalping Screen retired from service (in place). Installed Raw Coal Wet Circuit Screens and additional heavy media cyclones. Modified the Thermal Dryer's I.D. fan by increasing wheel diameter from 85" to 88" in order to increase the venturi pressure differential of the Scrubber (control device efficiency increase to meet emissions standards).
- 1983 Changed the I.D. Fan Wheel again, from 88" to 89", which in turned resulted in a change of the BHP requirements that resulted in the need for a larger drive motor. This was resolved by the installation of twin drive 1000 HP motors. This was done to increase the venturi pressure differential of the Scrubber (control device efficiency increase to meet emissions standards). The Clean Coal Stockpile and associated Clean Coal Conveyors No. 4,5, and No.6 were added to the original plant configuration.
- 1980's There were resident complaints when the previous owner installed a conveyor system and stockpile for the thermally dried coal. The new owner installed a stacking tube. (Since 1992 to present there have not been any resident complaints.)
- 1985 Preparation Plant's Wet Circuit modified for the addition of 14" classifying cyclones and Sieve Bends.
- 1986 Refuse system conveyors no 1-8 were added to the original plant configuration. This allowed

the direct placement of refuse to the refuse disposal area.

- 1987 Preparation Plant's Wet Circuit modified for additional Sieve Bends and the addition of the EB-36 centrifuge dryer. The EB-36 dryer reduced the moisture content of the clean coal fines going to the Thermal Dryer from the Initial Design value of 12.8% downward to 10.97%. The end product resultant from the dryer was also changed from 3.5% to 6.5% moisture which in-turn reduced the required specific heat input of the Thermal Dryer furnace (required less fuel for same process, or would allow a slight increase in production feed capacity ~300 TPH for the same design heat input). The Thermal Dryer's I.D. fan changes caused the stack velocity to increase to ~4200 fpm (beyond normal range of ~3000 fpm). This caused some moisture particle carry over impacting the stack test results.
- 1990 WVAPCC cited Maben Energy for modifications made to thermal dryer causing it to be subject to NSPS standards. The stack carry over problem was corrected by increasing the stack diameter from 68" to 90" and increasing the length from 50' to 95' to reestablish normal operating parameters, along with straightening vanes to help correct the cyclonic flow pattern in stack.
- 1992 Added additional instrumentation to Thermal Dryer in order to comply with NSPS standards. Conducted Stack Test to show compliance. Particulate emissions were measure to be 0.021 gr/dscf as compared to the 0.031 gr/dscf emission limit.
- 2001 Re-configured the physical location of refuse conveyors RC6, RC7 and RC14 to allow better distribution of refuse to the disposal area.
- 2001 A consent order was written for the company to perform a stack test and submit permit applications.
- 2002 Modification application R13-2484 approved September 9, 2002 for the removal of scalping screen SSC-1 and the addition of six refuse conveyors (RC8 thru RC13) and raw coal rotary dumper RRCD and associated conveyor RCC6.
- 2005 Class I administrative update application R13-2484 approved October 12, 2005 to change permit condition A.3 as follows: temperature of gas stream at the exit of the thermal dryer from 1400 °F to 1464 °F; pressure loss through the scrubber from 28 inches of water to 23 inches of water; and water supply pressure from 7.0 psig to 7.8 psig.
- 2007 After-the-Fact modification application R13-2484B was approved June 5, 2007 to increase the storage capacity of CCOS1 from 50,000 tons to 150,000 tons and add haulroad UPHR3 (5 miles roundtrip) from adjacent mine to RCTD1. Application stated it was an after-the-fact and the changes had already been made in 2003.
- 2007 The thermal dryer was shut down in October of 2007. The thermal dryer was replaced by 2 water decanters enclosed in the wet wash plant and can meet the customer's requirement of 8% moisture. There are no plans to ever restart the dryer and the Company may have the T5

permit voluntarily closed in the future.

Note : The thermal dryer was added in 1972. Changes were made to Thermal Dryer from 1978 to 1990. On December 5, 1991 EPA determined the thermal dryer is subject to NSPS due to increase in emission. The Plant is not subject to PSD because the emission increase occurred systematically over a 12 year period from 1978 to 1990.

DESCRIPTION OF PROCESS

This revised application received on December 21, 2010 requests to add four raw coal conveyors (RCC7, RCC8, RCC9, and RCC10) rated at 1,800 TPH and 5,300,000 TPY from an adjacent surface mine and minimize fugitive emissions from haulroads through the use a water truck applying water with a chemical dust suppressant added. The round trip length of haulroad UPHR2 will be increased from 0.26 miles to 0.41 miles; and haulroad UPHR3 will be deleted since it is no longer being used. For conveyors RCC1 and CC1A, the control device was changed from PE to FE to correct a previous typographical error. The permit will also be converted to the new boilerplate format and a comprehensive and up-to-date emissions unit table will be developed.

OVERVIEW

East Gulf Preparation Plant processes a maximum of 5.3 million tons of raw coal per year, 3.71 million tons of clean coal per year and 2.597 million tons of refuse per year.

Raw coal is received by truck or will be conveyed directly from an adjacent mine by the new proposed raw coal conveyors RCC7, RCC8, RCC9 and RCC10. The raw coal from truck dump bin RCTD2 is first transferred to a rotary breaker to size the coal and separate refuse material. The sized coal is transferred to a 5,500 ton silo. The refuse from the breaker is conveyed to the disposal area. The coal is then processed through the wet wash plant which cleans the coal. The wet wash separate the coal into fine and coarse sizes. The wet coarse material (~7 percent moisture) is sent directly to the clean coal stockpile area, while the fine material circuit (~11 percent moisture) is first sent to either the thermal dryer or centrifuges to reduce the final surface moisture of the material. The dried fine material (6.5 percent moisture) is then re-blended with the coarse material from the clean coal stockpile and is transferred to the train loadout for final shipment via railcar. The final average clean coal moisture is approximately 6.75 percent moisture.

Note: The thermal dryer is currently idle and has been since October of 2007.

RAW COAL CIRCUIT

The rotary rail car dump (RRCD) and the associated raw coal conveyor RCC6 were permitted under R13-2284 on September 9, 2002, but have not been constructed as of the date of issuance of this permit R13-2484C. The railcars will be transported into the rotary car dump building and

positioned upon the rotary car handling equipment. The raw coal would then be transferred to the receiving hopper of the rotary car dump via transfer point T10 (PE). The collected raw coal is then transferred to conveyor RCC6 (PE) via transfer point T11 (FE/PE). The raw coal conveyor RCC6 transfers the material to the raw coal conveyor RCC4 (PE) via transfer point T12 (PE). The raw coal conveyor RCC5 (PE) transfers material to the rotary breaker via T3 (PE).

Raw coal is also received by trucks dumping in two (2) separate truck dumps (RCTD1 and RCTD2) or it will be conveyed to RCTD1 from an adjacent mine via proposed raw coal conveyors RCC7, RCC8, RCC9 and RCC10. Coal trucks transport the raw coal into the facility by unpaved haulroads identified as UPHR1 (HR-CS) and UPHR2 (HR-CS). The trucks traveling on haulroad UPHR1 will travel approximately 0.67 miles (round trip), in order to transfer the raw coal to truck dump RCTD1 (PE) via transfer point T8 (MC). Trucks traveling on haulroad UPHR1 from an adjacent surface mine will travel approximately 0.18 miles (round trip), in order to transfer the raw coal to truck dump RCTD1 (PE) via transfer point T8 (MC). Trucks traveling on haulroad UPHR2 will travel approximately 0.26 miles (round trip), in order to transfer the raw coal material to truck dump RCTD2 (PE) via transfer point T1 (MC).

Raw coal from an adjacent surface mine is stockpiled and loaded to a bin which feed an overland conveying system which then goes underground through an old deep mine through a mountain. At the point where this conveying system comes above ground again, a series of four (4) new conveyor belts (RCC7 through RCC10) will transfer raw coal from an adjacent mine directly to bin RCTD1 via transfer points T47 through T51.

The raw coal that is received from truck dump RCTD1 is transferred onto conveyor belt RCC4 (PE) via transfer point T9 (PE/PE). Conveyor RCC4 then transfers the material to conveyor RCC5 (FE) via transfer point T13 (PE/FE). The raw coal conveyor RCC5 (PE) transfer material to the rotary breaker via transfer point T3 (PE).

The raw coal that is received from truck dump RCTD2 is transferred to conveyor belt RCC1 (PE) via transfer point T2 (FE). The raw coal conveyor RCC1 (PE) transfer material to the rotary breaker via transfer point T3 (PE). At this point, raw coal from both truck dumps RCTD1 and RCTD2 converge. The raw coal is fed directly into rotary breaker RB-1 (FE) via transfer point T3 (PE).

Any refuse material from the rotary breaker RB-1 (FE) is transferred to the refuse circuit via transfer point T15 (FE/FE). Raw coal from the rotary breaker RB-1 is transferred to conveyor RCC2 (FE) via transfer point T4 (FE/FE). The raw coal is transferred from conveyor RCC2 into the 5,500-ton raw coal storage silo RCS1 (FE) via transfer point T5 (PE). The raw coal is reclaimed from RCS1 onto raw coal conveyor RCC3 (FE) via transfer point T6 (FE/FE). Conveyor RCC3 then transfers the raw coal into the wet wash circuit of the preparation plant via transfer point T7 (PE/FE). The wet wash circuits further separates the coal and refuse material.

REFUSE CIRCUIT

Refuse from the Wet Wash Circuit of the preparation plant is transferred to the refuse

disposal area in the following manner. Refuse material separated from the raw coal by the wet wash is transferred to refuse conveyor RC1 (PE) via transfer point T14 (PE/FE). Refuse from the wet wash and refuse from rotary breaker RB-1 is transferred into a 150-ton refuse bin via transfer point T15 (FE/FE). The refuse bin RB1 (FE/FE) transfers onto refuse conveyor RC2 (PE) via transfer point T16 (FE/FE).

A front endloader transfers coal ash from the Thermal Dryer's furnace and other general clean up materials into a conveyor feed hopper ENF1 (PE) via transfer point T17 (MC). This feed hopper transfers the refuse materials onto refuse conveyor RC2 (PE) via transfer point T18 (PE). The refuse material is then transferred onto conveyor RC3 (PE) via transfer point T19 (PE). Refuse conveyor RC3 transfers the refuse material to conveyor RC4 (PE) via transfer point T20 (PE). The refuse from conveyor RC4 is transferred to conveyor RC5 (PE) via transfer point T21 (PE). Conveyor RC5 transfers the refuse to conveyor RC6 (PE) via transfer point T22 (PE). Conveyor RC6 transfers the refuse to conveyor RC7 (PE) via transfer point T23 (PE). Conveyor RC7 transfers the refuse to conveyor RC8 (PE) via transfer point T24 (PE). Conveyor RC8 transfers the refuse onto the refuse stacking conveyor RC14 (MC) via transfer point T25 (PE). Refuse conveyors RC9 (PE) through RC13 (PE) were permitted under R13-2284 on September 9, 2002, but have not been constructed as of the date of issuance of this permit R13-2484C, but will be added on an "as need" basis to facilitate storage of refuse material. Refuse stacker conveyor RC14 (MC) transfers the refuse to the refuse disposal area via transfer point T31 (MC).

CLEAN COAL CIRCUIT

The clean coal that leaves the wet wash circuit is separated into two (2) different material sizes; the typical split of the materials is 70 percent fines, and 30 percent coarse material. The coarse material (2" x 1/2") is transferred from the wet wash to conveyor CC4 (PE) via transfer point T40 (PE/FE). Conveyor CC4 transfers clean coal to clean coal stockpile CCOS1 (MC) via transfer points T42 (PE) or T43 (MC). Transfer point T43 is used to bypass the stacking tube. The clean coal stockpile CCOS1 is reclaimed by underground feeders and is transferred to clean coal conveyor CC5 (PE) via transfer point T44 (FE/PE). The clean coal that is reclaimed by conveyor CC5 is transferred to the clean coal conveyor CC6 (PE) via transfer point T45 (FE/FE). The coarse clean coal is then blended with the fine dried clean coal, as described below, which is transferred to the railcar loadout bin CB1 via transfer points T39 (PE/FE) and T46 (TC).

The wet coal fines from the wet wash circuit consists of clean coal fines (-1/2" x 0") that is transferred to the thermal dryer TD1 (FE) or centrifuges for drying. The Thermal Dryer reduces the surface moisture of the clean coal fines from approximately eleven (11) percent moisture down to approximately six and half (6.5) percent moisture. The clean coal from the wet wash circuit is transported to the Thermal Dryer by clean coal conveyor CC1 (PE) via transfer points T32 (PE/FE) and T33 (PE/FE). Transfer point T33 also has the option of diverting the clean coal fines around the thermal dryer and sending them back to the Thermal Dryer's collecting conveyor CC3 (PE) when the centrifuges are used in lieu of the thermal dryer.

A portion of the clean coal fines are also diverted from transfer point T33 (FE) by means of a proportioning gate to provide fuel for the Thermal Dryer's furnace. Clean coal is transferred onto

conveyor CC1A (FE). Conveyor CC1A transfers the clean coal fines to the furnace fuel bin via transfer point T34 (FE).

The clean coal fines enter the Thermal Dryer and then exit via two different transfer points. The majority of the clean coal fines exits the dryer onto conveyor CC3 via transfer point T35 (FE). Some of the finer coal particles become entrained in the hot gas flow through the Thermal Dryer and are collected or separated out of the gas flow by two (2) parallel 92 inch diameter cyclones. The collected coal fines from the cyclones is then transferred to the clean coal conveyor CC2 (FE) via transfer point T36 (FE). Conveyor CC2 transfers the dried fines to clean coal collecting conveyor CC3 (PE) via transfer point T37 (FE). The Thermal Dryer collecting conveyor CC3 transports the dried clean coal to the conveyor belt CC6 (PE/FE) via transfer point T38 (PE/FE).

The clean coal reversing conveyor CC6 collects the blended wet coarse material and the dried coal fines (7 percent moisture & 6.5 percent moisture respectively) to give total product moisture of approximately 6.75 percent. The final clean coal material can either be sent to the clean coal stockpile CCOS1 via transfer point T41 and conveyor CC4 as described above; or the clean coal material can be loaded directly into railroad cars via a 20-ton rail car loadout bin CB-1 via transfer point T39. From the loadout bin CB1, the clean coal mixture is transferred to the railcars via transfer point T46 (TC) for final shipment to the customer.

The clean coal stored directly at the stacking tube is 50,000 tons. However, the managed stockpile area can store up to 150,000 tons combined.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from permit applications R13-2484C, R13-2484B, R132484A and R13-2484 and any amendments thereto:

Table A							
Source					Associated Emission Points		
Source ID No.	Equipment Description	Maximum Throughputs	Fugitive Dust Control System/Control Device ¹	Date of Construction, Reconstruction or Modification ²	ID No.	Transfer Description	Fugitive Dust Control System/Control Device ¹
PLANT EQUIPMENT							
RCTD1 (25S)	Raw Coal Truck Dump No. 1 - 200 Ton Bin	600 TPH 5.3 MM TPY	PE	M 2010 C 1972	T8 T51 T9	Truck - RCTD1 RCC10 - RCTD1 RCTD1 - RCC4	MC PE PE/PE
<i>SC1 (007)</i>	<i>Raw Coal Double Deck Screen</i>	<i>750 TPH 6.57 MM TPY</i>	<i>FE</i>	<i>C 1972 (grand-fathered)</i>	<i>T13 T7A T7B T7C</i>	<i>RCC4 - SC1 SC1 - prep plant SC1 - prep plant SC1 - prep plant</i>	<i>PE/FE PE/FE PE/FE PE/FE</i>
RCTD2 (26S)	Raw Coal Truck Dump No. 2 - 150 Ton Bin	600 TPH 5.3 MM TPY	PE	C 1978	T1 T2	Truck - RCTD2 RCTD2 - RCC1	MC FE
RB-1 (24S)	Prep. Plant Rotary Breaker - Pennsylvania Crusher - Model No. RMD 9' x 16'	600 TPH 5.3 MM TPY	FE	C 1978	T3 T4 T15	RCC1, RCC5 - RB1 RB1 - RCC2 RB-1-RB1	PE FE/FE FE/FE

ENF1 (32S)	Endloader Feeder No. 1 (refuse)	10 TPH 30,000 TPY	PE	C 1978	T17 T18	Endloader - ENF1 ENF1 - RC2	MC PE
RRCD (36S)	Railcar Unloading Facility	600 TPH 5.3 MM TPY	PE	future ³	T10 T11 T12	Train - RCCD RCCD - RCC6 RCC6 - RCC4	MC/PE FE/PE PE
TD1 (31S)	Thermal Dryer - J.O. Lively Fluid Bed Dryer, Model No. H & P 80, Design Capacity - 80 MM BTU per hour heat input. Double Butterfly Cyclone - 106,000 acfm. Venturi Scrubber - Flex-Kleen, Model # 60 - 1156 HP fan - Water Supply - 503 gal/min. Flex-Kleen High Velocity Mist Eliminator	320 TPH 2.8 MM TPY	MCS/ WSS	C 1972 (Mod. '82-90)	T33 T34 T35 T36 001	CC1 - TD1 CC1A - TD1 TD1 - CC3 TD1 - CC2 TD1 - Atmosphere	PE/FE FE FE FE MCS/WSS
CONVEYOR BELTS							
RCC1 (1S)	Raw Coal Conveyor No. 1	600 TPH 5.3 MM TPY	FE	C 1978	T2 T3	RCCTD2 - RCC1 RCC1 - RB-1	FE PE
RCC2 (2S)	Raw Coal Conveyor No. 2	540 TPH 4.77MM TPY	FE	C 1978	T4 T5	RB-1 - RCC2 RCC2 - RCS1	FE/FE PE
RCC3 (3S)	Raw Coal Conveyor No. 3	600 TPH 4.77MM TPY	FE	C 1978	T6 T7	RCS1 - RCC3 RCC3 - PP1	FE/FE PE/FE
<i>RCC4 (4S)</i>	<i>Raw Coal Conveyor No. 5</i>	<i>600 TPH 5.3 MM TPY</i>	<i>PE</i>	<i>C 1972 (grand-fathered)</i>	<i>T9 T13</i>	<i>RCTD1 - RCC4 RCC4 - SCI</i>	<i>PE/PE PE/FE</i>
RCC5 (5S)	Raw Coal Conveyor No. 5	600 TPH 5.3 MM TPY	FE	C 1978	T13 T3	RCC4 - RCC5 RCC5 - RB-1	PE/FE PE
RCC6 (33S)	Railcar Unloading Coal Conveyor No. 1	600 TPH 5.3 MM TPY	PE	future ³	T11 T12	RRCD - RCC6 RCC6 - RCC4	FE/PE PE
RCC7 (42S)	Raw Coal Conveyor Belt	1,800 TPH 5.3 MM TPY	PE	2010	T47 T48	surface mine-RCC7 RCC7 - RCC8	PE PE
RCC8 (43S)	Raw Coal Conveyor Belt	1,800 TPH 5.3 MM TPY	PE	2010	T47 T48	RCC7 - RCC8 RCC8 - RCC9	PE PE
RCC9 (44S)	Raw Coal Conveyor Belt	1,800 TPH 5.3 MM TPY	PE	2010	T47 T48	RCC8 - RCC9 RCC9 - RCC10	PE PE
RCC10 (45S)	Raw Coal Conveyor Belt	1,800 TPH 5.3 MM TPY	PE	2010	T47 T48	RCC9 - RCC10 RCC10-truck dump	PE PE
RC1 (6S)	Refuse Conveyor No. 1	294 TPH 2.6 MM TPY	PE	C 1986	T14 T15	PP1(Wet) - RC1 RC1 - RB1	PE/FE FE/FE
RC2 (7S)	Refuse Conveyor No. 2	294 TPH 2.6 MM TPY	PE	C 1986	T16 T19	RB1 - RC2 RC2 - RC3	FE/FE PE
RC3 (8S)	Refuse Conveyor No. 3	294 TPH 2.6 MM TPY	PE	C 1986	T19 T20	RC2 - RC3 RC3 - RC4	PE PE
RC4 (9S)	Refuse Conveyor No. 4	294 TPH 2.6 MM TPY	PE	C 1986	T20 T21	RC3 - RC4 RC4 - RC5	PE PE
RC5 (10S)	Refuse Conveyor No. 5	294 TPH 2.6 MM TPY	PE	C 1986	T21 T22	RC4 - RC5 RC5 - RC6	PE PE
RC6 (11S)	Refuse Conveyor No. 6	294 TPH 2.6 MM TPY	PE	M 2001 C 1986	T22 T23	RC5 - RC6 RC6 - RC7	PE PE
RC7 (12S)	Refuse Conveyor No. 7	294 TPH 2.6 MM TPY	PE	M 2001 1986	T23 T24	RC6 - RC7 RC7 - RC8	PE PE
RC8 (13S)	Refuse Conveyor No. 8	294 TPH 2.6 MM TPY	PE	C 2007	T24 T25	RC7 - RC8 RC8 - RC9(RC14)	PE PE

RC9 (14S)	Refuse Conveyor No. 9	294 TPH 2.6 MM TPY	PE	future ³	T25 T26	RC8 - RC9 RC9 - RC10	PE PE
RC10 (15S)	Refuse Conveyor No. 10	294 TPH 2.6 MM TPY	PE	future ³	T26 T27	RC9 - RC10 RC10 - RC11	PE PE
RC11 (16S)	Refuse Conveyor No. 11	294 TPH 2.6 MM TPY	PE	future ³	T27 T28	RC10 - RC11 RC11 - RC12	PE PE
RC12 (34S)	Refuse Conveyor No. 12	294 TPH 2.6 MM TPY	PE	future ³	T28 T29	RC11 - RC12 RC12 - RC13	PE PE
RC13 (34S)	Refuse Conveyor No. 13	294 TPH 2.6 MM TPY	PE	future ³	T29 T30	RC12 - RC13 RC-13 - RC14	PE PE
RC14 (17S)	Refuse Stacking Conveyor No. 14	294 TPH 2.6 MM TPY	MC	M 2001 1986	T30 T31	(RC8)RC13 - RC14 RC14 - Refuse Area	PE MC
CC1 (18S)	Clean Coal Conveyor No. 1	320 TPH 2.8 MM TPY	PE	C 1972 (grand-fathered)	T32 T33	prep plant - CC1 CC1 - TD, CC1A or by-pass	PE/FE PE/FE
CC1A (37S)	Thermal Dryer Feed Belt 1A	3 TPH 26,280 TPY	FE	C 1972 (grand-fathered)	T33 T34	CC1 - CC1A CC1A - fuel bin	PE/FE FE
CC2 (19S)	Clean Coal Conveyor No. 2	320 TPH 2.8 MM TPY	PE	C 1972 (grand-fathered)	T36 T37	DS - CC2 CC2 - CC3	FE FE
CC3 (20S)	Clean Coal Conveyor No. 3	320 TPH 2.8 MM TPY	PE	C 1972 (grand-fathered)	T35 T37 T38	TD - CC3 CC2 - CC3 CC3 - CC6	FE FE PE/FE
CC4 (21S)	Clean Coal Conveyor No. 4	430 TPH 3.71 MM TPY	PE	C 1983	T40 T41 T41	PP1 - CC4 CC6 - CC4 CC4 - CCOS1	PE/FE FE/FE PE
CC5 (22S)	Clean Coal Conveyor No. 5	800 TPH 3.71 MM TPY	PE	C 1983	T44 T45	CCOS1 - CC5 CC5 - CC6	FE/PE FE/FE
CC6 (23S)	Clean Coal Reversing Conveyor No. 6	800 TPH 3.71MM TPY	PE/FE	C 1983	T38 T39 T41 T45	CC3 - CC6 CC6 - CB1 CC6 - CC4 CC5 - CC6	PE/FE PE/FE FE/FE FE/FE
STORAGE							
RCS1 (27S)	Raw Coal Silo	5,500 Tons 4.8 MM TPY	FE	C 1978	T5 T6	RCC2 - RCS1 RCS1 - RCC3	PE FE/FE
RB1 (28S)	Refuse Bin No. 1	150 Tons 2.6 MM TPY	FE/FE	C 1978	T15 T16	RC1 - RB1 RB1 - RC2	FE/FE FE/FE
CCOS1 (30S)	Clean Coal Open Storage Pile No. 1 with Stacking Tube (and Emergency Bypass*) - 120,000 Sq. Ft. Area	150,000 Tons 3.71 MM TPY	MC/MD	M 2003or2007 C 1983	T42 T43* T44	CC4 - CCOS1 CC4 - CCOS1 CCOS1 - CC5	PE/ST MC/ST FE/PE
CB1 (29S)	Clean Coal Rail Car Loadout Bin No. 1	20 Tons 3.71 MM TPY	FE	C 1972 (grand-fathered)	T39 T46	CC6 - CB1 CB1 - rail car	PE/FE TC
HAULROADS							
UPHR1 (39S)	Haulroad to Raw Coal Truck Dump No. 1 (Unpaved) 0.67 miles round trip	N/A	RWMW	C 1972 (grand-fathered)	T8	UPHR1 - RCTD1	MC
UPHR2 (40S)	Haulroad from Mead Mine to Raw Coal Truck Dump No. 2 (Unpaved) from 0.26 to 0.41 miles round trip	N/A	HR-CS	M 2007 C 1978	T1	UPHR2 - RCTD2	MC

¹ Transfer Points have the same type of fugitive dust control system as the associated conveyors unless otherwise noted. Fugitive Dust Control System/Control Device abbreviations FE - Full Enclosure; FE/FE - Full Enclosure in Building; PE -

Partial Enclosure; ST - Stacking Tube; MC - Moisture Content; MD - Minimize Drop Height; UC - Underground Reclaim Feeder; NE - No Equipment; RWMW - Water Truck with Manufactures pressurized sprays; WSS Flooded Disc Scrubber; MCS - Multiclone System; ME - Mist Eliminator.

- ² 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 after October 27, 1974 but on or before April 28, 2008 shall not discharge gases which exhibit 20 percent opacity or greater. Coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems constructed, reconstructed, or modified after April 28, 2008 shall not discharge gases which exhibit 10 percent opacity or greater.
- ³ The equipment listed was approved within permit R13-2484 on September 9, 2002, but it has not been constructed as of the date of issuance of this permit R13-2484C.

SITE INSPECTION

On May 19, 2010, John Money Penny of the DAQ's Compliance and Enforcement Section performed a full on-site targeted inspection. Mr. Money Penny wrote the following statements in his inspection memo: "No problems found. The thermal dryer, which is the source of most of the T5 permit requirements, has not been operated since October 2007. The TD was replaced by 2 water decanters. The decanters are enclosed in the wet wash plant and can meet the customer's requirement of 8% moisture. There are no plans to ever restart the dryer and the Company may have the T5 permit voluntarily closed in the future. Minor deviations were reported in the T5 Cert... and have been corrected." The facility was given a code of 30 - In Compliance.

Directions from Charleston, WV, are to take I-64 East/I-77 South to Beckley, take Exit 42 and take State Route 16 South past Sophia and then Helen, turn left onto County Route 33 (Coal City Road) and travel approximately 3.4 miles and the plant entrance will be on the right. The facility is located on County Route 33 (Coal City Road) past Rhodell and Eastgulf, but before Killarney.

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 "Compilation of Air Pollution Emission Factors." 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 emissions calculations for the new facility wide total were performed by the applicant's consultant using the DAQ's General Permit G10-C Emission Calculation Spreadsheet and were checked for accuracy and completeness by the writer. The writer performed the increase in emissions calculations using the DAQ's General Permit G10-C Emission Calculation Spreadsheet and a copy has been attached.

The proposed modification of a wet wash coal preparation plant with a thermal dryer through the addition of four new raw coal conveyors RCC7, RCC8, RCC9 and RCC10 will result in an increase in the potential to discharge controlled particulate matter emissions from point sources (equipment and transfer points) of 2.86 pounds per hour (PPH) and 4.21 tons per year (TPY) of particulate matter (PM), of which 1.35 PPH and 1.99 TPY will be particulate matter less than 10

microns in diameter (PM₁₀). The removal of the current fixed water spray requirement (75% control efficiency) and replacement with a water truck applying water and chemical dust suppressants (85% control efficiency) while increasing the length of haulroad UPHR2 from 0.26 miles to 0.41 miles round trip actually results in a decrease in fugitive emissions from unpaved haulroads. Refer to the following table for a complete summary of the proposed changes in the facility's PM and PM₁₀ emissions:

<i>Proposed Change in Emissions</i> Pocahontas Coal Company LLC R13-2484C	Controlled PM Emissions		Controlled PM₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.00	0.00	0.00	0.00
Unpaved Haulroad Emissions	-0.56	-4.37	-0.29	-1.29
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	-0.56	-4.37	-0.29	-1.29
Point Source Emissions				
Equipment Emissions	0.00	0.00	0.00	0.00
Transfer Point Emissions	2.86	4.21	1.35	1.99
Thermal Dryer	0.00	0.00	0.00	0.00
<i>Point Source Emissions Total (PTE)</i>	2.86	4.21	1.35	1.99
FACILITY EMISSIONS TOTAL				
	2.29	-0.17	1.06	0.70

Refer to the following table for a complete summary of the facility's new potential to discharge for PM and PM₁₀ emissions:

<i>New Facility-wide Emissions Summary</i> Pocahontas Coal Company LLC R13-2484C	Controlled PM Emissions		Controlled PM₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.81	3.53	0.38	1.67
Unpaved Haulroad Emissions	17.64	4.55	77.25	19.93
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	147.91	647.86	43.85	192.06
Point Source Emissions				
Equipment Emissions	14.40	63.60	6.82	30.08
Transfer Point Emissions	6.32	17.61	2.99	8.33
Thermal Dryer	54.40	238.27	20.62	90.27
<i>Point Source Emissions Total (PTE)</i>	75.12	319.48	30.43	128.68
FACILITY EMISSIONS TOTAL				
	223.03	967.34	74.28	320.74

Refer to the following table for a complete summary of the facility's potential to discharge

pollutants from the thermal dryer:

Pollutant	Emissions Limitations	
	One-Hour Average (lbs/hour)	Annual (tons/year)
Volatile Organic Compounds (VOCs)	31.36	137.36
Sulfur Dioxide (SO₂)	59.4 ¹	260.4 ¹
Oxides of Nitrogen (NO_x)	46.08	201.83
Carbon Monoxide (CO)	17.40	76.21
Particulate Matter (PM)	54.40	238.27
Particulate Matter < 10 Microns (PM₁₀)	20.62	90.27
Hazardous Air Pollutants (HAPs)	-----	2.38

¹ Based on SO₂ mass balance equation. The calculated values based on the AP 42 emission factor of 1.4 lbs/ton would equate to maximum emission rates for SO₂ of 134.40 lb/hour and 588.67 tons/year.

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the wet wash coal preparation plant with a thermal dryer. The proposed modification of Pocahontas Coal Company LLC’s wet wash coal preparation plant with a thermal dryer is subject to the following state and federal rules:

45CSR4: To Prevent and Control the Discharge of Air Pollutants Into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors

The facility is subject to the requirements of 45CSR4 and shall not allow the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

45CSR5 To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants, Coal Handling Operations and Coal Refuse Disposal Areas

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), Section 4 (thermal dryer and stack requirements) 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 are in operation.

45CSR10 To Prevent and Control Air Pollution From the Emission of Sulfur Oxides

The existing facility is subject to all applicable requirements under 45CSR10, since the use of the thermal dryer subjects the facility to §45-10-4, Standards for Manufacturing source operations.

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 involve the construction of four new conveyors (RCC7, RCC8, RCC9 and RCC10) subject to 40 CFR 60 NSPS Subpart Y revised on April 28, 2008 and then again on May 27, 2009. On October 20, 2009, the applicant submitted an application for a Class II administrative update and \$300 for the application fee. On October 22, 2009, the applicant published a Class I legal advertisement in *The Register-Herald*. In letters dated January 22, 2010 and March 8, 2010, the DAQ deemed the application to be incomplete and that it should be a modification application. On March 17, 2010, the applicant published a revised Class I legal advertisement in *The Register-Herald*. On April 1, 2010, the DAQ received checks totaling \$1,700 for a total of \$2,000 (\$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 Plants

The wet wash coal preparation plant with a thermal dryer is subject to 40 CFR 60 Subpart Y because it was modified (and new pieces constructed) after October 24, 1974 and processes more than 200 tons of coal per day. The proposed modification will include the construction of four (4) new belt conveyors (RCC7, RCC8, RCC9 and RCC10), which are defined as affected facilities in 40 CFR 60 Subpart Y. Therefore, the coal processing equipment 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 the following: Section 252(a) (less than 20% opacity for thermal dryers constructed, re-constructed or modified on or before April 28, 2008); 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); and Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage systems, or coal transfer and loading systems processing coal constructed, re-constructed or modified after April 28, 2008) when the particulate matter control methods and devices proposed are in operation.

The thermal dryer was added in 1972. However, changes were made to the thermal dryer from 1978 to 1990. On December 5, 1991, EPA determined that the thermal dryer is subject to NSPS in 40 CFR 60 Subpart Y due to an increase in emissions which occurred systematically over a 12 year period from 1978 to 1990.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the wet wash coal preparation plant with a thermal dryer will continue to be a major source. The facility is 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 potential to emit will be 128.68 TPY for PM₁₀ (open storage piles constructed or modified after May 27, 2009 and point sources combined), 137.36 TPY for VOC, 260.37 TPY for SO₂, 201.83 TPY for NO_x, which are greater than the 45CSR30 threshold of 100 TPY of a regulated air pollutant to be defined as a major stationary source. Therefore, the facility will continue to be subject to 45CSR30 and remain classified as a Title V major source.

The permitted facility's Title V (45CSR30) permit renewal R30-08100012-2007, issued on October 16, 2007, must be revised before commencing operation of the activity (activities) authorized by this permit.

The proposed modification of Pocahontas Coal Company LLC's wet wash coal preparation plant with a thermal dryer is not 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, the wet wash coal preparation plant with a thermal dryer is one of the 100 TPY stationary sources listed sources under the definition of "Major Stationary Source" in subsection 2.43.a. At the end of subsection 2.4.3, this facility is listed in Table 1 - Source Categories Which Must Include Fugitive Emissions. So, fugitive emissions (from open storage piles and haulroads) are included when determining major stationary source applicability. The facility's potential to emit will be 400.26 TPY for PM, 137.36 TPY for VOC, 260.37 TPY for SO₂, 201.83 TPY for NO_x, which are greater than the 45CSR14 threshold of 100 TPY for a regulated air pollutant to be defined as a major stationary source. Therefore, the modified wet wash coal preparation plant with a thermal dryer will remain a major source under 45CSR14.

In accordance with Section 2.75, the definition of "significant emission increase" is defined in Section 2.74 as equal to or greater than 25 TPY for PM or 15 TPY for PM₁₀. The proposed increase in emissions as a result of the addition of four new raw coal conveyors RCC7, RCC8, RCC9 and RCC10 within this modification application are 4.21 TPY for PM and 1.99 TPY for PM₁₀, which are less than the trigger levels which define a significant emission increase in 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the increases in pollutants being emitted from this facility are in 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 proposed size and location of this facility. This is a minor modification (as defined in 45CSR14) to an existing major source. This is an existing facility located in Raleigh County, WV, which is currently in attainment for PM (particulate matter), PM₁₀ (particulate matter less than 10 microns in diameter) and all other regulated pollutants.

MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. An example form for tracking throughput and processing rates is included as Appendices A and B to Permit R13-2484C. An example form for tracking the usage of the water truck and amount of water and chemical dust suppressants applied to the haulroads is included as Appendix C to Permit R13-2484C. An example form for VE Readings as Appendix D to Permit R13-2484C. 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 for at least five (5) years and be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

The processing, storage areas and thermal dryer should be observed to make sure that the facility is meeting the visible emission standards of 40 CFR 60 Subpart Y. As stated in 40 CFR 60.252(a), visible emissions from a thermal dryer constructed, re-constructed or modified on or before April 28, 2008 shall not exceed 20 percent (20%) opacity. As stated in 40 CFR 60.254(a), visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified before on or April 28, 2008 shall not exceed 20 percent (20%) opacity. As stated in 40 CFR 60.254(b), visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008 shall not exceed 10 percent (10%) opacity.

Pocahontas Coal Company LLC is required to maintain the following records on site for a period of five years from the date of their generation:

- 1) Daily analysis of the fuel coal burned in the thermal dryer furnaces. LFP is to sample the fuel coal in accordance with approved ASTM methods.
- 2) Certified documentation detailing all thermal dryer scrubber malfunctions.
- 3) Certified record of water and additive usage.
- 4) Temperature of the gas stream at the exit of the thermal dryer, Pressure loss through the scrubber & Water supply pressure in the scrubber.

CHANGES TO CURRENT PERMIT R13-2484B

- Add four raw coal conveyors (RCC7, RCC8, RCC9, and RCC10) rated at 1,800 TPH and 5,300,000 TPY to convey raw coal from an adjacent surface mine.
- Remove the current requirement for fixed water sprays (75% control efficiency) along the haulroad and replace with a water truck applying water and a chemical suppressant (85% control efficiency)
- Increase the round trip length of haulroad UPHR2 from 0.26 miles to 0.41 miles (after-the-fact).
- Delete haulroad UPHR3 from the Tommy Creek Mine because it is no longer being used.
- For conveyors RCC1 and CC1A, the control device was changed from PE to FE to correct a previous typographical error.
- Convert permit to the new boilerplate format.

RECOMMENDATION TO DIRECTOR

The information contained in this modification 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 Pocahontas Coal Company LLC for a modification to their wet wash coal preparation plant with a thermal dryer located along County Route 33 (Coal City Road) approximately 3.4 miles from the intersection with State Route 16 and near Rhodell, Raleigh County, WV, is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

January 4, 2010

Date