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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2998 After-the-Fact
Plant ID No.:	059-00109
Applicant:	Central Appalachia Mining, LLC
Facility Name:	Tug River Prep Plant
Location:	Thacker, Mingo County
SIC Code:	1241 (Coal Mining Services)
NAICS Code:	212113 (Support Activities for Coal Mining)
Application Type:	Modification
Received Date:	September 24, 2012
Engineer Assigned:	Dan Roberts
Fee Amount:	$2,000
Date Received:	September 28, 2012
Complete Date:	December 7, 2012
Applicant Ad Date:	September 26, 2012
Newspaper:	*Williamson Daily News*
UTM's:	Easting: 405.000 km Northing: 4160.426 km Zone: 17
Description:	After-the-Fact modification to convert from a G10-D General Permit registration to a Rule 13 individual permit because the facility is using a highwall truck dump with a drop height greater than 20 feet. There are also some as-built corrections as follows: change the clean coal circuit configuration, which includes the proposed addition of one new clean coal conveyor BC-6 and stacking tube; increase the annual throughput for transfer points TP-8 and TP-11 from 80,000 TPY to 2,100,000 TPY; increase the maximum base areas of stockpiles OS-1 and OS-2 and the height of stockpile OS-1; and delete the telescopic chutes from transfer point TP-19 from clean coal bin BS-1 to trucks and transfer point TP-14 from refuse bin BS-2 to trucks because they were never installed and change the control device from telescopic chute (TC) to partial enclosure (PE).

BACKGROUND

CAM Mining, LLC is doing business as Central Appalachia Mining, LLC and is a subsidiary of Rhino Energy, LLC. Central Appalachia Mining, LLC is currently operating their existing

Millseat Plant under registration G10-D132 approved on July 12, 2011. With this application, the company would like to change the facility name from the Millseat Plant to the Tug River Prep Plant.

On July 12, 2012, Fred Teel of the DAQ's Compliance and Enforcement Section inspected the facility and found that they were using a highwall truck dump with a drop height greater than 20 feet. The maximum drop height from the highwall dump to the ground storage elevation was approximately 40 feet. On September 11, 2012, Mr. Teel was at the facility during the performance testing and observed trucks dumping from approximately 30 feet onto the top of the open storage pile and the creation of excessive fugitive emissions. In order to be eligible for a G10-D General Permit registration, the highwall drop height must be no greater than 20 feet.

On August 28, 2012, Jason Miller from Central Appalachia Mining, LLC came to the DEP headquarters in Charleston, WV for a meeting with Fred Teel and the writer. The group discussed the situation and possible solutions and the company seemed to decide that the best course of action was to convert from a G10-D General Permit registration to a Rule 13 individual permit.

DESCRIPTION OF PROCESS

This facility is remotely located and the nearest public road is more than one mile away. All facilities described below are existing unless otherwise noted.

Raw coal will be trucked to the site and will be dumped over a highwall dump onto open raw coal stockpile (OS-1) at transfer points TP-1, TP-17 and TP-18. Water sprays are proposed for the dump points. There are three different coal sources that will be processed by the plant and therefore three separate dump points. These dump points will relate to the three underground feeders that empty coal from OS-1 (TP-2, TP-3 and TP-16) that are fully enclosed. These feeders transfer coal onto belt conveyor BC-1. BC-1 then transfers the raw coal into the top of crusher (CR-1) at transfer point TP-4 which will be partially enclosed. The crusher will be fully enclosed. The sized coal will be transferred onto belt conveyor BC-2 at TP-5 (partially enclosed). BC-2 will enter the wet wash plant at TP-6 (fully enclosed inside the building).

Clean coal will exit the plant at TP-7 onto belt conveyor BC-3 (fully enclosed inside the building). Clean coal will then be transferred either to directly to OS-2, BC-5 or BC-6 at TP-8 (partially enclosed). The clean coal diverted to BC-5 is transferred to truck loadout bin BS-1 at TP-10 (partially enclosed), where it will then be loaded directly into trucks at TP-19 (partially enclosed). The clean coal diverted to proposed conveyor BC-6 is transferred directly onto stockpile OS-2 at TP-9 (proposed stacking tube). Clean coal will be loaded out of stockpile OS-2 into a truck by endloader (partially enclosed).

Refuse from the wet wash process will leave the plant onto belt conveyor BC-4 at TP-12 (fully enclosed inside the building). From BC-4, the refuse will be transferred into bin BS-2 at TP-13 (partially enclosed). From the bin, refuse will be transferred into a truck at TP-14 (partially enclosed). When the truck reaches the refuse disposal area, it will be dumped onto the ground at TP-15 (no controls).

All belt conveyors will be provided with partial enclosures over them. The moisture content of the clean coal and raw coal is estimated to be 7% and the refuse 18%.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from permit applications R13-2998 and G10-D132 and any amendments thereto:

Equip-ment ID No.	Date of Construction, Reconstruction or Modification[1]	Description	Maximum Capacity		Control Equip-ment[2]	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
Raw Coal Circuit								
OS-01	M 2012 C 2011	60,000 ton Raw Coal Stockpile - maximum 23,250 ft^2 base area and 42 foot pile height - receives trucked raw coal from three different coal sources. There are three separate dump points and three corresponding underpile feeders that transfer raw coal to belt conveyor BC-1	----	3,000,000	N	B B B A A A	TP-1 TP-17 TP-18 TP-2 TP-3 TP-16	WS WS WS FE FE FE
BC-1	C 2011	Belt Conveyor - transfers raw coal (6x1/4) from open stockpile OS-1 to rotary breaker CR-1	450	3,000,000	PE	B B B A	TP-2 TP-3 TP-16 TP-4	FE FE FE PE
CR-1	C 2011	Rotary Breaker - receives raw coal (6x1/4) from belt conveyor BC-1, crushes (2x1/4) then transfers to belt conveyor BC-2	450	3,000,000	FE	B A	TP-4 TP-5	PE PE
BC-2	C 2011	Belt Conveyor - transfers raw coal (2x1/4) from rotary breaker to the wet wash preparation plant	450	3,000,000	PE	B A	TP-5 TP-6	PE FE
Clean Coal Circuit								
BC-3	C 2011	Belt Conveyor - receives clean coal (1/4x0) from the preparation plant and transfers to either stockpile OS-2 via a stacking tube, belt conveyor BC-5 or belt conveyor BC-6	300	2,100,000	PE	B A	TP-7 TP-8	FE PE
BC-5	C 2011	Belt Conveyor - receives clean coal (1/4x0) from belt conveyor BC-3 and transfers toloadout bin BS-1	300	2,100,000	PE	B A	TP-8 TP-10	PE PE
BS-1	C 2011	500 Ton Loadout Bin - receives clean coal (1/4x0) from belt conveyor BC- 5 and transfers directly into trucks	----	2,100,000	FE	B A	TP-10 TP-19	PE PE
BC-6	C 2012	Belt Conveyor - receives clean coal (1/4x0) from belt conveyor BC-3 and transfers to clean coal stockpile OS-2 via one of two stacking tubes	300	2,100,000	PE	B A	TP-8 TP-9	PE PE
OS-2	M 2012 C 2011	80,000 ton Clean Coal Stockpile - maximum 24,000 ft^2 base area and 30 foot pile height - receives clean coal (1/4x0) from belt conveyors BC-5 and BC-6 via a stacking tube. Clean coal is loaded out to trucks by endloader.	----	2,100,000	N	B B A	TP-8 TP-9 TP-11	PE PE PE
Refuse Circuit								
BC-4	C 2011	Belt Conveyor - receives refuse (2x1/4) from preparation plant and transfers to refuse bin BS-2	200	1,800,000	PE	B A	TP-12 TP-13	FE PE
BS-2	C 2011	100 Ton Refuse Bin - receives refuse (2x1/4) from belt conveyor BC-4 and transfers directly into trucks via telescopic chute for transfer to disposal area	----	1,800,000	FE	B A A	TP-13 TP-14 TP-15	PE PE N

[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 after April 28, 2008 shall not discharge gases which exhibit 10 percent opacity or greater. For open storage piles constructed, reconstructed, or modified after May 27, 2009, the permittee shall prepare and operate in accordance with a fugitive coal dust emissions control plan that is appropriate for site conditions.

[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.

DESCRIPTION OF FUGITIVE EMISSIONS

Fugitive emissions from the site will consist of emissions from unpaved haulroads and from wind erosion of stockpiles.

Raw coal will enter the site on the roads as shown on the Plot Plan Map, dump their loads onto OS-1 at three possible dumping points, then leave the site. The three dumping points will have spray bars along the lip of the dump berm of each truck dump point as shown on the Flow Diagram. These bars will have nozzles that will operate at 2 GPM at 125 psi and will be fan shaped mist style of nozzle that will be pointed away from the berm so that the dumped load will pass through the mist before hitting the stockpile. These sprays will also provide a wetting of the coal as it hits the stockpile. The sprays will be activated automatically or manually as the trucks back into the dump points and shall operate until the load is dumped. As an enhancement, two spraystream series fans will be located as shown on the Flow Diagram and the Plot Plan. These fans will be firected as shown across all three dump points and angled slightly away from the highwall as shown on the drawings to control any fugitive dust that may be missed by the spray bars. These fans will also be automatically or manually operated as the trucks back into the dump points and shall operate until the loads are dumped. A detial of the Spraystream Series Fan is attached. These fans will be installed on fixed pedestals and shall be adjusted as used to their fullest potential to control the emissions.

Control of fugitive dust due to wind erosion at open stockpile OS-1 will be accomplished by the use of compaction using equipment found on-site. A water truck with a fixed spray bar will be used to control fugitive dust on the gravel roads.

Clean coal will leave the site via the same haulroad. Clean coal not loaded directly into trucks at TP-19 will be loaded into trucks by an endloader. Control of fugitive dust due to wind erosion at open stockpile OS-2 will be accomplished by compaction of the coal by the use of equipment found on-site.

The refuse haulroad is shown on the Plot Plan Map. This road will also utilize the water truck as described above.

The use of the water truck will be directly related to the amount of precipitation received during the work day.

SITE INSPECTION

Fred Teel of the DAQ's Compliance and Enforcement Section performed a full on-site inspection on July 12, 2012. The contact person at the facility was Blake Mullins, Superintendent. The weather was overcast with a temperature of 85°F and light air. The facility was found to be in violation of registration G10-D132 because a highwall truck dump was in use with a drop height greater than 20 feet (approximately 40 feet), there was no control system in place and excessive fugitive emissions were observed. The inspection summary status code for this facility is 10 - in violation.

Directions from Charleston, follow US119S - go 68.3 mi, turn left on WV-65 - go 7.2 mi,

turn left on EUTAW AVE(WV-65) - go 0.6 mi, continue on US-52 - go 3.6 mi, turn right on MATEWAN RD(WV-65) - go 4.1 mi, continue to follow WV-65 - go 0.5 mi, bear left on MAIN ST(WV-49), bear left to follow WV-49 - go 4.2 mi, at the end of 49/3, go through guard shack and travel 1.2 mi to the site on the coal haulroad on Millseat Branch.

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.

In comparing the current maximum permitted emissions and the proposed maximum emissions, the proposed modifications will result in an increase in the potential to discharge controlled emissions of 0.99 pounds per hour and 3.64 TPY of particulate matter (PM), of which 0.23 pounds per hour and 1.25 TPY will be particulate matter less than 10 microns in diameter (PM_{10}). Please bear in mind that the proposed change in emissions also takes into account the change in the moisture content of the coal from 4% to 7%. Refer to the following table for a summary of the proposed changes in the potential to discharge controlled emissions of PM, PM_{10} and $PM_{2.5}$:

- Proposed Increase in Emissions - **Central Appalachia Mining, LLC R13-2998**	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Open Storage Pile Emissions	0.00	0.02	0.00	0.01
Unpaved Haulroad Emissions	1.32	2.65	0.39	0.78
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	1.33	2.66	0.40	0.79
Point Source Emissions				
Equipment Emissions	0.00	0.00	0.00	0.00
Transfer Point Emissions	-0.34	0.97	-0.16	0.16
Point Source Emissions Total (PTE)	*-0.34*	*0.97*	*-0.16*	*0.46*
FACILITY EMISSIONS TOTAL	***0.99***	***3.64***	***0.23***	***1.25***

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

- New Facility-wide Emissions - **Central Appalachia Mining, LLC R13-2998**	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.03	0.13	0.01	0.06
Unpaved Haulroad Emissions	411.85	823.60	121.56	243.09
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	*411.88*	*823.73*	*121.58*	*243.16*
Point Source Emissions				
Equipment Emissions	0.18	0.60	0.09	0.30
Transfer Point Emissions	1.53	3.94	0.72	1.87
Point Source Emissions Total (PTE)	*1.71*	*4.54*	*0.81*	*2.17*
FACILITY EMISSIONS TOTAL	**413.59**	**828.28**	**122.39**	**245.32**

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the facility. The proposed modification of a 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 R13-2998 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 converting from a General Permit G10-D registration to a Rule 13 individual permit and involve the construction of equipment subject to NSPS Subpart Y. The applicant has submitted an application for a modification permit. The applicant published a Class I legal advertisement in the *Williamson Daily News* on September 26, 2012 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 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 construction of one (1) belt conveyor, which is defined as affected facility 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 the following: 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 owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions. The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile. The plan must be submitted to the Director prior to startup of the new, reconstructed or modified open storage pile.

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 2.23 TPY for PM_{10} (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 <u>not</u> 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 4.77 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 PM_{10} (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 Mingo County, WV, which is currently in attainment for PM (particulate matter) and PM_{10} (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, refuse and clean coal processed is included as Appendix A to Permit R13-2998. An example form for tracking the amount of water applied through the water truck is included as Appendix B to Permit R13-2998. 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.

The owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions. The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile. The plan must be submitted to the Director prior to startup of the new, reconstructed or modified open storage pile.

CHANGES TO CURRENT REGISTRATION G10-D132

- Convert from a General Permit G10-D registration to a Rule 13 individual permit because of the use of a highwall truck dump with a drop height greater than 20 feet
- Update Table 1.0 Emission Units to include the following: change the clean coal circuit configuration, which includes the proposed addition of one new clean coal conveyor BC-6 and stacking tube; increase the annual throughput for transfer points TP-8 and TP-11 from 80,000 TPY to 2,100,000 TPY; increase the maximum base areas of stockpiles OS-1 and OS-2 and the height of stockpile OS-1; and delete the telescopic chutes from transfer point TP-19 from clean coal bin BS-1 to trucks and transfer point TP-14 from refuse bin BS-2 to trucks because they were never installed and change the control device from telescopic chute (TC) to partial enclosure (PE)
- Create Appendix A as a throughput tracking form and Appendix B as a water usage by the water truck form

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 Central Appalachia Mining, LLC for the modification of their existing Tug River Prep Plant located near Thacker, Mingo County, WV is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

December 7, 2012
Date