



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2177G
Plant ID No.: 051-00020
Applicant: The Marshall County Coal Company
Facility Name: Marshall County Preparation Plant
Location: Moundsville, Marshall County, WV
SIC Codes: 1222 (Bituminous Coal & Lignite - Underground)
NAICS Codes: 212112 (Bituminous Coal Underground Mining)
Application Type: Modification
Received Date: March 24, 2017
Engineer Assigned: Dan Roberts
Fee Amount: \$2,000
Date Received: March 27, 2017
Applicant's Ad Date: March 29, 2017
Newspaper: *Moundsville Daily Echo*
Complete Date: April 20, 2017
UTM Coordinates: Easting: 515.90516 km Northing: 4409.25253 km NAD Zone 17N
Lat/Lon Coordinates: Latitude: 39.828 Longitude: -80.813 NAD83
Description: Modification to add three (3) belt conveyors (CCP-C5, CCP-C6 and CCP-C7) and one (1) truck loadout bin (CCP-B2) to transfer coal combustion product from existing truck loadout bin CCP-B1 to Refuse Disposal Area #2 as Phase II of this project.

BACKGROUND

The Marshall County Coal Company proposes to modify their existing wet wash coal preparation plant located near Moundsville, Marshall County, WV. Pending permit R13-2177G will supersede and replace current permit R13-2177F, which was approved on February 1, 2016.

This facility was previously owned and operated by Consolidation Coal Company as the McElroy Preparation Plant. On January 25, 2016, the DAQ received a letter request dated January

19, 2016 for a change of ownership (although the company's address remained the same). In a letter dated February 16, 2016, the DAQ acknowledged the transfer of the permits from Consolidation Coal Company to The Marshall County Coal Company and the Marshall County Preparation Plant.

PROCESS DESCRIPTION (taken from the application)

The Marshall County Preparation Plant is an active bituminous coal underground mine. The coal is procured from an existing mine portal and is conveyed to two raw coal storage silos. From the raw coal storage pile, coal is conveyed to a screening tower, where the raw coal is screened and separated into two distinct material streams: the refuse stream is crushed, conveyed to refuse storage bins, and ultimately transported to refuse storage piles, and the "plant feed" coal is conveyed to a silo and ultimately transported to the preparation plant.

Two types of material exit the preparation plant. The first type of material is refuse. The refuse is conveyed to a refuse storage bin and ultimately transferred to the refuse storage piles. The second type of material is clean coal, which is raw coal that has been screened, sized, and washed in the preparation plant. Clean coal is conveyed to the clean coal storage bin and ultimately transferred to the barge loadout area.

Within permit R13-2177F, The Marshall County Coal Company was authorized to construct a conveyor system and river unloading facility to handle coal combustion product (CCP) at the Marshall County Preparation Plant as Phase I. Specifically, a crane and unloading hopper will be used to unload CCP from barges. The CCP will be conveyed to a truck bin via a series of four conveyors. The truck bin will then dump into trucks. The trucks will then transport the CCP to the existing refuse stockpiles at the facility.

Within application R13-2177G, The Marshall County Coal Company has proposed to extend the CCP conveying system as Phase II. The CCP will be conveyed from the existing truck bin via a series of three conveyors to a new truck bin. The truck bin will then dump into trucks. The trucks will then transport the CCP to the Refuse Disposal Area #2 at the facility.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit applications R13-2177G, R13-2177F, R-13-2177E, R13-2177D, R13-2177C, R13-2177B, R13-2177A and R13-2177:

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Date of Construction, Reconstruction or Modification ³	Maximum Design Capacity		Control Device ⁴
				TPH	TPY	
10 Belt	10 Belt	Raw Coal Belt	C 1996	4,500	24,017,000	PE
13 Belt	13 Belt	Raw Coal Belt	C 1996	4,500	24,017,000	PE
14 Belt	14 Belt	Raw Coal Belt	C 1996	1,500	13,140,000	PE
15 Belt	15 Belt	Raw Coal Belt	C 2004	1,500	24,017,000	PE
17 Belt	17 Belt	Raw Coal Belt	C 1996	4,000	24,017,000	PE
33 Belt	33 Belt	Refuse Belt	M 2015, C 1996	500	4,380,000	PE
34 Belt	34 Belt	Refuse Belt	M 2009 ⁵	1,500	13,140,000	PE
59 Belt	59 Belt	Refuse Belt	M 2009 ⁵	1,500	13,140,000	PE

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Date of Construction, Reconstruction or Modification ³	Maximum Design Capacity		Control Device ⁴
				TPH	TPY	
310 Belt	310 Belt	Clean Coal Belt	C 2004	2,000	17,520,000	PE
64 Belt	64 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
63 Belt	63 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
62 Belt	62 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
66 Belt	66 Belt	Raw Coal Belt	C 1998	4,000	24,017,000	PE
67 Belt	67 Belt	Raw Coal Belt	C 1998	4,000	24,017,000	PE
6600 Belt	6600 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
111 Belt	111 Belt	Clean Coal Belt	C 1983	3,000	18,250,000	PE
112 Belt	112 Belt	Clean Coal Belt	C 2004	3,000	18,250,000	PE
6700 Belt	6700 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
6800 Belt	6800 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
7000 Belt	7000 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
1201 Belt	1201 Belt	Raw Coal Belt	C 2002	4,000	21,017,000	PE
1202 Belt	1202 Belt	Raw Coal Belt	C 2002	4,000	21,017,000	PE
1305 Belt	1305 Belt	Clean Coal Belt	C 2002	2,000	17,520,000	PE
650 Belt	650 Belt	Clean Coal Belt	C 2005	2,000	17,520,000	PE
620 Belt	620 Belt	Clean Coal Belt	C 2005	2,000	17,520,000	PE
1307 Belt	1307 Belt	Clean Coal Belt	C 2002	3,000	18,250,000	PE
3100 Belt	3100 Belt	Clean Coal Belt	C 2003	3,000	18,250,000	PE
901 Belt	901 Belt	Refuse Belt	M 2009 ⁵	1,500	13,140,000	PE
902 Belt	902 Belt	Refuse Belt	M 2009 ⁵	1,500	13,140,000	PE
903 Belt	903 Belt	Refuse Belt	M 2009 ⁵	1,500	13,140,000	PE
904 Belt	904 Belt	Refuse Belt	M 2010	1,500	13,140,000	PE
CCP-H1	CCP-H1	Coal Combustion Product Hopper	C 2015	1,600	3,500,000	PE
CCP-C1	CCP-C1	Coal Combustion Product Conveyor	C 2015	1,600	3,500,000	FE
CCP-C2	CCP-C2	Coal Combustion Product Conveyor	C 2015	1,600	3,500,000	FE
CCP-C3	CCP-C3	Coal Combustion Product Conveyor	C 2015	1,600	3,500,000	FE
CCP-C4	CCP-C4	Coal Combustion Product Conveyor	C 2015	1,600	3,500,000	FE
CCP-B1	CCP-B1	Coal Combustion Product Truck Bin	C 2015	300 tons	3,500,000	PE
CCP-C5	CCP-C5	Coal Combustion Product Conveyor	C 2017	1,600	3,500,000	FE
CCP-C6	CCP-C6	Coal Combustion Product Conveyor	C 2017	1,600	3,500,000	FE
CCP-C7	CCP-C7	Coal Combustion Product Conveyor	C 2017	1,600	3,500,000	FE
CCP-B2	CCP-B2	Coal Combustion Product Truck Bin	C 2017	300 tons	3,500,000	PE
RCS1	RCS1	Raw Coal Silo 1	C 1970	7,000 tons	24,017,000	FE
RCS2	RCS2	Raw Coal Silo 2	C 1998	22,000 tons	24,017,000	FE
SCRN1	SCRN1	Scalping Screen 1	C 1996	2,400	24,017,000	FE
SCRN2	SCRN2	Scalping Screen 2	C 2004	2,400	24,017,000	FE
BRKR1	BRKR1	Rotary Breaker	C 1996	500	4,380,000	FE
CRSR1	CRSR1	Crusher	M 2015, C 1996	500	4,380,000	FE
RB1	RB1	Refuse Bin 1	C 1970	100 tons	13,140,000	FE
RB2	RB2	Refuse Bin 2	C 1971	300 tons	13,140,000	FE
RB3	RB3	Refuse Bin 3	C 2009 ⁵	300 tons	13,140,000	FE
RB4	RB4	Refuse Bin 4	C 2010	300 tons	13,140,000	FE
VT-UP	VT-UP	Vehicular Traffic	M 2015, M 2009	NA	NA	WT
SP2	SP2	Open Stockpile 2	C 2003	71,000 tons	18,250,000	MC
SP3	SP3	Open Stockpile 3	C 2005	280,000 tons	17,520,000	MC
FAN1	FAN1	In-Plant Exhaust	C 1994	NA	NA	N

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Date of Construction, Reconstruction or Modification ³	Maximum Design Capacity		Control Device ⁴
				TPH	TPY	
FAN2	FAN2	In-Plant Exhaust	C 2002	NA	NA	N
CCS	CCS	Clean Coal Silo	C 1983	2,000 tons	18,250,000	FE
RSP1	RSP1	Open Refuse Stockpile 1	C 2009 ⁵	613,200 tpy	13,140,000	WS
RSP2	RSP2	Open Refuse Stockpile 2	C 2010		13,140,000	WS

¹ New Emission Unit ID

² New Emission Point ID

³ 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. 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.

⁴ Control Device Abbreviations: FE - Full Enclosure; PE - Partial Enclosure; ST - Stacking Tube; WS - Water Sprays; WT - Water Truck; MC - Moisture Control; MD - Minimize Drop Height; N - None; NA - Not Applicable.

⁵ These pieces of equipment and open storage piles were approved to be constructed or modified within permit R13-2177E, which was approved on July 28, 2009. See footnote (3) above.

SITE INSPECTION

On November 1, 2016, Al Carducci of the DAQ's Northern Panhandle Regional Office performed a full on-site targeted inspection. The facility was found to be in compliance at the time of the inspection and given a status code of 30 - In Compliance.

Directions from Charleston are to take I-77 N toward I-79/Parkersburg and travel 1.9 miles, keep left to take I-77N toward Parkersburg and travel 76.9 miles, take Exit 179 Emerson Ave. toward WV-2 N/WV-68 S/Vienna travel 0.3 miles, turn right onto Emerson Ave. and travel 5.0 miles, Emerson Ave. becomes WV-2 and travel 53.5 miles and the facility is on the right just past Fish Creek Road/County Hwy-7/4.

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. Emissions calculations were performed by the applicant's consultant and were checked for accuracy by the writer.

The proposed modifications will result in an increase in the potential to discharge controlled emissions from point sources of 101.08 pounds per hour and 110.55 TPY of particulate matter (PM), of which 28.86 pounds per hour and 31.56 TPY will be particulate matter less than 10 microns in diameter (PM₁₀) and 2.89 pounds per hour and 3.16 TPY will be particulate matter less than 2.5

microns in diameter (PM_{2.5}). Refer to the following table for a summary of the proposed increase in emissions:

- Proposed Increase in Emissions - The Marshall County Coal Company R13-2177G	Controlled PM Emissions		Controlled PM ₁₀ Emissions		Controlled PM _{2.5} Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Stockpile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Haulroad Emissions	217.83	238.26	62.09	67.91	6.21	6.79
Paved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	<i>217.83</i>	<i>238.26</i>	<i>62.09</i>	<i>67.91</i>	<i>6.21</i>	<i>6.79</i>
Point Source Emissions						
Breaking and Crushing Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Screening Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Plant Exhaust Fans	0.00	0.00	0.00	0.00	0.00	0.00
Transfer Point Emissions	0.14	0.16	0.07	0.07	0.01	0.01
<i>Point Source Emissions Total (PTE)</i>	<i>0.14</i>	<i>0.16</i>	<i>0.07</i>	<i>0.07</i>	<i>0.01</i>	<i>0.01</i>
TOTAL INCREASE IN EMISSIONS						
	217.97	238.42	62.16	67.98	6.22	6.80

The new facility-wide potential to discharge controlled emissions from point sources of 417.94 pounds per hour and 766.13 TPY of particulate matter (PM), of which 125.87 pounds per hour and 244.66 TPY will be particulate matter less than 10 microns in diameter (PM₁₀) and 17.42 pounds per hour and 45.11 TPY will be particulate matter less than 2.5 microns in diameter (PM_{2.5}). Refer to the following table for a summary of the proposed increase in emissions:

- New Facility-wide Emissions - The Marshall County Coal Company R13-2177G	Controlled PM Emissions		Controlled PM ₁₀ Emissions		Controlled PM _{2.5} Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Stockpile Emissions	2.82	12.35	1.41	6.18	1.41	6.18
Unpaved Haulroad Emissions	383.43	632.15	109.30	180.19	10.93	18.02
Paved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	<i>386.25</i>	<i>644.50</i>	<i>110.71</i>	<i>186.37</i>	<i>12.34</i>	<i>24.20</i>
Point Source Emissions						
Breaking & Crushing Emissions	2.00	8.76	1.00	4.38	1.00	4.38
Screening Emissions	0.21	0.62	0.10	0.31	0.10	0.31
Plant Exhaust Fans	4.36	19.10	2.18	9.55	2.18	9.55
Transfer Point Emissions	25.12	93.14	11.89	44.05	1.80	6.67
<i>Point Source Emissions Total (PTE)</i>	<i>31.69</i>	<i>121.62</i>	<i>15.16</i>	<i>58.29</i>	<i>5.08</i>	<i>20.91</i>
TOTAL INCREASE IN EMISSIONS						
	417.94	766.13	125.87	244.66	17.42	45.11

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed modification of The Marshall County Coal Company's existing wet wash coal preparation plant. The proposed modification is subject to the following state and federal rules:

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.

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. The proposed modification involves the construction of three (3) conveyor belts and one (1) truck loadout bin, which are defined as affected facilities in 40 CFR 60 Subpart Y. The proposed modification will result in an increase in the potential to discharge controlled emissions of a regulated air pollutant (PM and PM₁₀) of greater than six pounds per hour and ten tons per year. The applicant submitted \$1,000 for the application fee and \$1,000 for the NSPS fee and published a Class I legal advertisement in the *Moundsville Daily Echo* on March 29, 2017.

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

This wet wash coal preparation plant is subject to 40 CFR 60 Subpart Y because it was constructed and modified after October 24, 1974 and processes more than 200 tons of coal per day. The proposed modification will include the construction of three (3) conveyor belts and one (1) truck loadout bin, 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 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system 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 system, or coal transfer and loading system 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 proposed 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 64.47 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 remain classified as a 45CSR30 (Title V) deferred non-major source.

The proposed modification of The Marshall County Coal Company's wet wash coal preparation plant 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, this 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 133.97 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 construction is not subject to the requirements set forth within 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the proposed 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 extent of the proposed modifications. This is a minor modification (as defined in 45CSR14) to an existing major source. This facility is located in Marshall County, WV, which is currently designated as attainment with the 1997 fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS), 2006 PM_{2.5} air quality standards and 2012 PM_{2.5} NAAQS. This facility will continue to be a minor source as defined by 45CSR14, therefore, an air quality impact analysis is not required.

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 the monthly amount of coal processed and coal combustion product transferred is included as Attachment A to Permit R13-2177G. An example form for tracking the amount of water applied by the water truck is included as Attachment B to Permit R13-2177G. An example form for tracking the weekly visible emission checks is included as Attachment C to Permit R13-2177G. 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 coal processing and storage areas should be observed to make sure that the facility is meeting the visible emission standards of 45CSR5 and 40 CFR 60, Subpart Y. 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(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 after April 28, 2008 shall not exceed 10 percent (10%) opacity as stated in 40 CFR 60.254(b).

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 PERMIT R13-2177F

- Add conveyor belts CCP-C5, CCP-C6 and CCP-C7
- Add truck loadout bin CCP-B2
- Add additional unpaved haulroad traffic
- Revise the Table of Contents Page
- Revise Permit Condition 3.5.3 to include the DAQ email address for reports
- Revise Permit Condition 4.1.8 to include proposed bin CCP-B2
- Revise Permit Conditions 4.1.20, 4.2.1 and 4.3.4 to include the proposed conveyors and bin

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 The Marshall County Coal Company to modify their existing wet wash coal preparation plant located near Moundsville, Marshall County, WV, is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

April 21, 2017
Date