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**west virginia department of environmental protection**

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## ENGINEERING EVALUATION / FACT SHEET

### BACKGROUND INFORMATION

Application No.: G10-D165A After-the-Fact  
Plant ID No.: 045-00150  
Applicant: Hampden Coal, LLC  
Facility Name: Muddy Bridge Screening Facility  
Location: Davin, Logan County, WV  
SIC Codes: 1222 (Bituminous Coal & Lignite - Underground)  
NAICS Codes: 212112 (Bituminous Coal Underground Mining)  
Application Type: Construction  
Received Date: May 4, 2017  
Engineer Assigned: Dan Roberts  
Fee Amount: \$1,500  
Date Received: May 5, 2017  
Applicant's Ad Date: May 9, 2017  
Newspaper: *The Logan Banner*  
Complete Date: June 1, 2017  
UTM's: Easting: 432.0782 km • Northing: 4177.6982 km • NAD83 Zone 17N  
Lat/Lon Coordinates: Latitude: 37.744059 • Longitude: -81.770943 • NAD83  
Description: After-the-Fact application to construct a 600 TPH and 5,256,000 TPY raw coal screening facility consisting of one screen, six belt conveyors and two open storage piles.

### BACKGROUND

According to the guard at the guard shack, Hampden Coal, LLC began their mining operations and trucking of coal from the Muddy Bridge deep mine in September of 2016. In January or February of 2017, the screening operation was constructed and began operation and it consists of six belt conveyors, one vibrating screen and two open storage piles.

On September 15, 2016, the DAQ received application G10-D165 for the construction of a 450 TPH and 3,492,000 TPY Muddy Bridge raw coal screening facility prepared by Heritage Technical Associates. On February 27, 2017, the DAQ received a letter from the applicant requesting to withdraw application G10-D165 in order to make revisions and resubmit it within a short amount of time. On March 1, 2017, the DAQ sent a letter acknowledging the withdrawal of application G10-D165.

On May 8, 2017, the DAQ approved General Permit registration G10-D161A for Hampden Coal, LLC to construct of another raw coal screening plant to be located on the other side of the mountain, but still on their contiguous property. This facility is called the Washington No. 2 Gas Screening Facility.

Hampden Coal, LLC's proposed Muddy Bridge raw coal screening plant (G10-D165A) and existing Washington No. 2 raw coal screening plant (G10-D161A) will meet the definition of "Building, Structure, Facility, or Installation" in 45CSR14.2.10 and "Major Source" in 45CSR30.2.26 and shall be considered as one facility for determining applicability to 45CSR14 (PSD) and 45CSR30 (Title V). Therefore, Hampden Coal, LLC's proposed Muddy Bridge raw coal screening plant (G10-D165A) and existing Washington No. 2 raw coal screening plant (G10-D161A) shall share a common facility ID No. of 045-00150 and their potential emissions shall be combined when determining applicability.

### DESCRIPTION OF PROCESS

Raw coal will exit the deep mine on belt conveyor BC-01(FE) and transfer to the screen feed conveyor BC-02(PE) @ TP-01(TC-PE) and transfer to the Allis Chalmers Vibrating Screen SS-01(FE) @ TP-02(TC-FE). Screened raw coal will transfer from the screen to conveyor BC-03(PE) @ TP-03(TC-FE); to conveyor BC-04(PE) @ TP-04(TC-PE); and to raw coal stockpile OS-01(SW-WS) @ TP-05(TC-MDH). Raw coal will then be loaded to truck for delivery @ TP-06(LO-MDH). Rock material or screen reject will transfer from the screen SS-01 on belt conveyor BC-05(PE) @ TP-07(TC-FE); to belt conveyor BC-06(PE) @ TP-08(TC-PE); to stockpile OS-02(SW-WS) @ TP-09(TC-MDH); and to truck for delivery @ TP-10(LO-MDH).

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G10-D165A and any amendments thereto:

Equipment ID No.	Date of Construction, Reconstruction or Modification <sup>1</sup>	G10-D Applicable Sections <sup>2</sup>	Emission Unit Description	Maximum Permitted Throughput		Control Device <sup>3</sup>	Associated Transfer Points		
				TPH	TPY		Location: B -Before A -After	ID No.	Control Device <sup>3</sup>
<b>Raw Coal Screening Plant</b>									
BC-01	C 2015	5 and 8	Belt Conveyor - receives raw coal from the deep mine and transfers it to BC-02	600	5,256,000	FE	B A	N/A TP-01	N/A TC-PE
BC-02	C 2015	5 and 8	Belt Conveyor - receives the raw coal from BC-01 and transfers it onto SS-01	600	5,256,000	PE	B A	TP-01 TP-02	TC-PE TC-FE

Equipment ID No.	Date of Construction, Reconstruction or Modification <sup>1</sup>	G10-D Applicable Sections <sup>2</sup>	Emission Unit Description	Maximum Permitted Throughput		Control Device <sup>3</sup>	Associated Transfer Points		
				TPH	TPY		Location: B -Before A -After	ID No.	Control Device <sup>3</sup>
SS-01	C 2015	5 and 8	Single Deck Screen - receives raw coal from BC-02, sizes it and the <4" raw coal drops onto BC-03 while the >4" rock drops onto BC-05	600	5,256,000	FE	B A A	TP-02 TP-03 TP-07	TC-FE TC-FE TC-FE
BC-03	C 2015	5 and 8	Belt Conveyor - receives the <4" sized raw coal from SS-01 and transfers it to BC-04	600	3,504,000	PE	B A	TP-03 TP-04	TC-FE TC-PE
BC-04	C 2015	5 and 8	Belt Conveyor - receives the <4" sized raw coal from BC-03 and transfers it onto OS-01	600	3,504,000	PE	B A	TP-04 TP-05	TC-PE TC-MDH
OS-01	C 2015	5 and 8	Sized Raw Coal Open Storage Pile - maximum 10,000 tons capacity, 18,869 ft <sup>2</sup> base area and 25' height - receives <4" sized raw coal from BC-04, stores it and then a front-end loader transfers it to trucks for shipment. Management of storage pile volume will be used to minimize drop height to less than 20'.	600	3,504,000	WS	B A	TP-05 TP-06	TC-MDH LO-MDH
BC-05	C 2015	5 and 8	Belt Conveyor - receives the >4" screen reject refuse from SS-01 and transfers it to BC-06	600	1,752,000	PE	B A	TP-07 TP-08	TC-FE TC-PE
BC-06	C 2015	5 and 8	Belt Conveyor - receives the >4" screen reject refuse from BC-05 and transfers it onto OS-02	600	1,752,000	PE	B A	TP-08 TP-09	TC-PE TC-MDH
OS-02	C 2015	5 and 8	Sized Raw Coal Open Storage Pile - maximum 5,000 tons capacity, 8,869 ft <sup>2</sup> base area and 25' height - receives >4" screen reject refuse from BC-06, stores it and then a front-end loader transfers it to trucks for shipment	600	1,752,000	WS	B A	TP-09 TP-10	TC-MDH LO-MDH

<sup>1</sup> 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.

<sup>2</sup> All registered affected facilities under Class II General Permit G10-D are subject to Sections 1.0, 1.1, 2.0, 3.0 and 4.0.

<sup>3</sup> Control Device Abbreviations: FE - Full Enclosure; FE, WS - Full Enclosure with Water Sprays; PE - Partial Enclosure; PE, WS - Partial Enclosure with Water Sprays; WS - Water Sprays; MDH - Minimize Drop Height; and NC - No Control.

### DESCRIPTION OF FUGITIVE EMISSIONS (taken directly from the application)

Potential sources of fugitive particulate emissions for this facility include emissions, which are not captured by pollution control equipment and emissions from open stockpiles and vehicular traffic on unpaved haulroads and unpaved work areas. The haulroads and work areas will be controlled by water truck in accordance with section E.6.c.i. of the General Permit.

The water trucks are equipped with pumps sufficient to maintain haulroads and work areas. The water trucks will be operated three times daily, and more as needed in dry periods.

An additive to prevent freezing will be utilized in the winter months when freezing conditions are present

## SITE INSPECTION

On April 17, 2015, the writer and Fred Teel of the DAQ's Compliance and Enforcement Section performed an unannounced site inspection. We arrived at the guard house at approximately 1:10 pm and signed in. We then proceeded up the mountain to the mine face where the facility was located. The temperature was approximately 61°F and it began to rain heavily just after we arrived. The facility has been constructed and was in operation at the time of the inspection and raw coal was being conveyed from the deep mine, screened and raw coal and refuse were being deposited into their respective open storage piles. The raw coal appeared to be dry and there was some dust hovering and processing and storage areas. The screen was not enclosed in any way. There was a fairly large quantity of raw coal in the open storage pile area. However, the writer and Mr. Teel were not sure how to estimate how many tons were in the raw coal open storage pile.

During the inspection, we observed four 18-wheeled trucks (front end loader would load 4 heaping scoops) and one 14-wheeled dump truck (front end loader would load 3 heaping scoops) leaving the facility loaded with raw coal. The guard at the guard shack stated that he believed that the facility had been hauling coal since September of 2016, but the screening operation began in January or February of 2017.

The inspection lasted for one half hour and concluded at approximately 1:40 pm. Here are some notes taken during the inspection:

- When you turn off of County Route 10 onto Muddy Bridge Branch Road, there is approximately 0.1 miles of paved road that extends just past the guard shack. There were two employees manually high volume pressure washing the wheels of the trucks right above the guard shack as they left prepared to leave the facility
- There are approximately 0.8 miles of unpaved haulroad from just above the guard shack to the raw coal screening facility
- The screened raw coal is being trucked to Guyandotte Mining, LLC's existing Fanco Preparation Plant (045-00050, G10-D106D) to be cleaned
- The nearest residence is located along County Route 10 at its intersection with the Muddy Bridge Branch Road

Directions to the facility from Charleston are to take US-119 S and travel 52.8 miles, take the WV-73 ramp towards WV-10/Logan and travel 0.3 miles, turn left onto WV-73 and travel 2.3 miles, turn left onto Old Highway 119 and travel 0.6 miles, stay straight to go onto WV-10/Logan Blvd. and continue to follow WV-10 and travel 8.9 miles, turn left to stay on WV-10 and travel 5.2 miles, make a U-turn at State Route 80 onto WV-10 and travel approximately 0.9 miles, take the first right onto Bridge Street and travel 0.2 miles, turn left onto Main Street/County Highway-16 and travel approximately 2.7 miles, bear left to stay on WV-10 also called Huff Creek Road and travel approximately 2.8 miles, turn left onto Devil Dog Way and travel 0.1 miles to the guard shack. The coal screening plant is approximately 0.8 miles further past the guard shack up the unpaved haulroad.

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 using the DAQ's G10-C Excel Emission Calculation Spreadsheet and were checked for accuracy and completeness by the writer.

The proposed construction will result in the potential to discharge controlled particulate matter emissions of 292.33 pounds per hour (lb/hour) and 1,251.57 tons per year (TPY) of particulate matter (PM), of which 88.28 lb/hour and 376.92 TPY will be particulate matter less than 10 microns in diameter (PM<sub>10</sub>). Refer to the following table for a complete summary of the proposed raw coal screening plant's potential to discharge:

<b>- Proposed Emissions - Hamden Coal, LLC Muddy Bridge Screening Facility - G10-D165A</b>	<b>Controlled PM Emissions</b>		<b>Controlled PM<sub>10</sub> Emissions</b>	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Open Storage Pile Emissions	0.04	0.19	0.02	0.09
Unpaved Haulroad Emissions	269.04	1,157.11	79.41	341.53
Paved Haulroad Emissions	7.53	32.62	1.45	6.29
<i>Fugitive Emissions Total</i>	<i>276.61</i>	<i>1,189.92</i>	<i>80.88</i>	<i>347.92</i>
<b>Point Source Emissions</b>				
Equipment Emissions	12.00	52.56	5.64	24.70
Transfer Point Emissions	3.72	9.09	1.76	4.30
<i>Point Source Emissions Total (PTE)</i>	<i>15.72</i>	<i>61.65</i>	<i>7.40</i>	<i>29.00</i>
<b>FACILITY EMISSIONS TOTAL</b>	<b>292.33</b>	<b>1,251.57</b>	<b>88.28</b>	<b>376.92</b>

Hamden Coal, LLC's proposed Muddy Bridge raw coal screening plant (G10-D165A) and existing Washington No. 2 raw coal screening plant (G10-D161A) meet the definition of "Building, Structure, Facility, or Installation" in 45CSR14.2.10 and "Major Source" in 45CSR30.2.26 and shall be considered as one facility for determining applicability to 45CSR14 (PSD) and 45CSR30 (Title V). Therefore, Hamden Coal, LLC's proposed Muddy Bridge raw coal screening plant and existing Washington No. 2 raw coal screening plant shall be combined when determining applicability and share the common facility ID Number of 045-00150.

The proposed Muddy Bridge raw coal screening plant (G10-D165A) and existing Washington No. 2 raw coal screening plant (G10-D161A) will have a combined estimated potential to discharge controlled emissions of 3,120.01 TPY of PM, of which 917.25 TPY will be PM<sub>10</sub>. The proposed Muddy Bridge raw coal screening plant and existing Washington No. 2 raw coal screening

plant will have a combined estimated potential to emit (coal open storage piles constructed or modified after May 27, 2009 and point sources combined) of 123.20 TPY of PM, of which 58.00 TPY will be PM<sub>10</sub>. Refer to the following table for a complete summary of Hamden Coal, LLC's proposed raw coal screening plant and existing raw coal screening plant's combined potential to discharge:

- Combined Emissions Totals - Hamden Coal, LLC G10-D165A - Muddy Bridge Facility G10-D161A - Washington No. 2 Facility	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
G10-D165A - Proposed Raw Coal Screen	276.61	1,189.92	80.88	347.92
G10-D161A - Existing Raw Coal Screen	419.76	1,806.89	118.91	511.73
<i>Fugitive Emissions Total</i>	696.37	2,996.81	199.79	859.25
<b>Point Source Emissions</b>				
G10-D165A - Proposed Raw Coal Screen	15.72	61.65	7.40	29.00
G10-D161A - Existing Raw Coal Screen	15.72	61.65	7.40	29.00
<i>Point Source Emissions Total</i>	31.44	123.20	14.80	58.00
<b>COMBINED EMISSIONS TOTAL</b>	<b>727.81</b>	<b>3,120.01</b>	<b>214.59</b>	<b>917.25</b>

### REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed raw coal screening plant. The construction of Hampden Coal, LLC's proposed raw coal screening plant 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 proposed raw coal screening plant will be 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 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 construction of the proposed raw coal screening plant is subject to the requirements of 45CSR13 because it will result in a potential to discharge greater than six pounds per hour and ten tons per year of regulated air pollutant (PM and PM<sub>10</sub>) and involve the construction

of one screen, six belt conveyors and two open storage piles, which are defined as affected facilities and subject to 40 CFR 60 NSPS Subpart Y. The applicant has submitted an application for a construction registration. The applicant published a Class I legal advertisement in *The Logan Banner* on May 9, 2017 and submitted \$500 for the General Permit 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 proposed raw coal screening plant will be subject to 40 CFR 60 Subpart Y because it will be constructed after October 24, 1974 and will process more than 200 tons of coal per day. The proposed construction will include one screen, six belt conveyors and two open storage piles, which are defined as affected facilities in 40 CFR 60 Subpart Y. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants. The facility should be in compliance with Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal which was 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, the proposed raw coal screening 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 proposed raw coal screening plant (G10-D165A) and existing raw coal screening plant's (G10-D161A) combined potential to emit will be 58.18 TPY for PM<sub>10</sub> (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 proposed raw coal screening plant will be a nonmajor source subject to 45CSR30. The proposed raw coal screening plant will not subject to the permitting requirements of 45CSR30 and will be classified as a deferred source.

The proposed construction of Hampden Coal, LLC's raw coal screening facility is not subject to the following state and federal rules:

Fact Sheet G10-D165A  
Hampden Coal, LLC  
Muddy Bridge Screening Facility

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 proposed raw coal screening 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 proposed raw coal screening plant (G10-D165A) and existing raw coal screening plant’s (G10-D161A) combined potential to emit will be 123.58 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 raw coal screening plant and existing wet wash coal preparation plant are not subject to the requirements set forth within 45CSR14.

#### TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the primary pollutants that will be emitted from this facility are PM (particulate matter) and PM<sub>10</sub> (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 size and location of this facility and the extent of the proposed construction. This raw coal screening plant will be located in Logan County, WV, which is currently in attainment for PM (particulate matter) and PM<sub>10</sub> (particulate matter less than 10 microns in diameter). This proposed raw coal screening plant will be a minor source as defined by 45CSR14, therefore, an air quality impact analysis is not required.

#### GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G10-D.

All registered facilities under Class II General Permit G10-D are subject to Sections 1.0, 1.1, 2.0, 3.0 and 4.0.



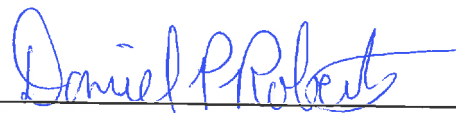
MONITORING OF OPERATIONS

The coal processing and conveying equipment and storage areas should be observed to make sure that the facility is meeting the applicable visible emission standards of 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 after April 28, 2008 shall not exceed 10 percent (10%) opacity as stated in 40 CFR 60.254(b). Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the maximum 10% opacity limitation.

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.

RECOMMENDATION TO DIRECTOR

The information contained in this general permit registration application to construct 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. No comments were received during the comment period. Therefore, the granting of a General Permit G10-D registration to Hampden Coal, LLC for the construction of their proposed raw coal screening plant to be located near Davin, Logan County, WV is hereby recommended.



Daniel P. Roberts, Engineer Trainee  
NSR Permitting Section

June 1, 2017  
Date