



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G10-D153B
Plant ID No.: 047-00145
Applicant: Caretta Minerals, LLC
Facility Name: Caretta Preparation Plant
Location: Caretta, McDowell County, WV
SIC Code: 1222 (Bituminous Coal & Lignite - Underground)
NAICS Code: 212112 (Bituminous Coal Underground Mining)
Application Type: Modification
Received Date: March 25, 2015
Engineer Assigned: Dan Roberts
Fee Amount: \$1,500
Date Received: March 30, 2015
Applicant's Ad Date: March 25, 2015
Newspaper: *The Welch News*
Complete Date: May 11, 2015
UTM Coordinates: Easting: 439.4629 km Northing: 4131.6812 km NAD83 Zone 17
Lat/Lon Coordinates: Latitude: 37.329828 Longitude: -81.683334 NAD83
Description: Add a Cummins 324 hp/1,800 rpm diesel lean burn four stroke generator to power light plants on the refuse area until permanent lighting can be installed.

DESCRIPTION OF PROCESS

Raw coal can be dumped into stockpile OS-01(SW-WS) @ TP-01(UL-MDH); transferred under-pile to BC-01(PE) @ TP-02(LO-UC); and into screening building @ TP-03(TC-FW); or dumped directly to BS-01 @ TP-04(UD-PW); go thru feeder-breaker CR-01(FW) @ TP-05(TC-FW) to belt BC-02(PE) @ TP-06(TC-FW); to screen SS-01(PW) @ TP-07(TC-PW); to belt BC-03(PE) @ TP-08(TC-FE); to crusher CR-02(FE) @ TP-09(TC-FE); to BC-03 to TP-10(TC-FE). Belt BC-03 will take raw coal to the plant raw coal screen SS-02(FW) for processing @ TP-11(TC-FW) and the screen will transfer to the wet wash system @ TP-12(TC-FW). Screen reject will transfer to OS-04(SW-WS) @ TP-32(TC-FC) via fixed chute and be cleaned up as maintenance @ TP-33(LO-

MDH).

Clean stoker coal from the plant will transfer to belt BC-04(PE) @ TP-13(TC-FW); to stockpile OS-02(SW-WS) @ TP-14(TC-MDH); and be loaded out to truck @ TP-15(LO-MDH). Clean coal will transfer from the plant onto belt BC-05(PE) @ TP-16(TC-FW); to belt BC-06(PE) @ TP-17(TC-FE); to stockpile OS-03(SW-WS) @ TP-18(TC-PE); to belt BC-10(PE) @ TP-19(TC-FE); to stockpile OS-05(SW-WS) TP-20(TC-PE). Clean coal from stockpile OS-03 can reclaim under pile to belt BC-07(PE) @ TP-21(LO-UC); from OS-05 to belt BC-07 @ TP-22(LO-UC); from belt BC-07 to belt BC-08(PE) @ TP-23(TC-FE); to surge bin BS-02(FE) @ TP-24(TC-FE); to loadout bin BS-03(FE) @ TP-25(TC-FE); to railcar @ TP-26(LR-TC). Clean coal can be loaded to truck for delivery off-site @ TP-27(LO-MDH).

Refuse will transfer from the plant to belt BC-09(PE) @ TP-28(TC-FW); to bin BS-04(FE) @ TP-29(TC-FE); to truck @ TP-30(LO-MDH); to disposal area @ TP-31(UL-MDH).

Gen Set will be a Cummins 324 hp/1,800 rpm diesel lean burn four stroke generator to power light plants on the refuse area until permanent lighting can be installed.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration applications G10-D153B and G10-D153A any amendments thereto:

Equipment ID #	Date of Construction, Reconstruction or Modification ¹	G10-D Applicable Sections ²	Emission Unit Description	Maximum Capacity		Control Device ³	Associated Transfer Points		
				TPH	TPY		Location: B -Before A -After	ID. No.	Control Device ³
Raw Coal Circuit									
OS-01	C 2013	5 and 8	Raw Coal Open Storage Pile - maximum 25,000 ton capacity, 38,869 ft ² base area and 60 ft height - receives raw coal from trucks, stores it and then underground feeders transfer it onto BC-01	500	4,380,000	WS	B A	TP-01 TP-02	UL-MDH LO-UC
BC-01	C 2013	5 and 8	Belt Conveyor - receives raw coal from OS-01 via underground feeders and transfers it to SS-01 (see below)	500	4,380,000	PE	B A	TP-02 TP-03	LO-UC TC-PW
BS-01	Not Yet Constructed *	5 and 8	Truck Dump Bin - 200 ton capacity - receives raw coal from truck dumping and drops it into CR-01 (* Permitted in 2013, but not yet constructed as of December 2014)	500	4,380,000	PW	B A	TP-04 TP-05	UD-PW TC-FW
CR-01	Not Yet Constructed *	5 and 8	Breaker - receives raw coal from BS-01, crushes it to 6" x 0 and then drops it to BC-02 (* Permitted in 2013, but not yet constructed as of December 2014)	500	4,380,000	FW	B A	TP-05 TP-06	TC-FW TC-FW
BC-02	Not Yet Constructed *	5 and 8	Belt Conveyor - receives crushed raw coal from CR-01 and transfers it to SS-01 (* Permitted in 2013, but not yet constructed as of December 2014)	500	4,380,000	PE	B A	TP-06 TP-07	TC-FW TC-PW
SS-01	C 2013	5 and 8	Double Deck Screen - receives raw coal from BC-01 and raw crushed coal from BC-02, classifies it and then drops the oversize refuse to OS-04, the +4" x 0 coal to CR-02, and the -4" x 0 coal to BC-03	500	4,380,000	PW	B B A A A	TP-03 TP-07 TP-32 TP-09 TP-08	TC-PW TC-PW TC-FC TC-FE TC-FE

Equipment ID #	Date of Construction, Reconstruction or Modification ¹	G10-D Applicable Sections ²	Emission Unit Description	Maximum Capacity		Control Device ³	Associated Transfer Points		
				TPH	TPY		Location: B - Before A - After	ID. No.	Control Device ³
OS-04	C 2013	5 and 8	Oversize Refuse Open Storage Pile - maximum 5 ton capacity, 50 ft ² base area and 8 ft height - receives oversize refuse from SS-01, stores it and then an endloader transfers it to trucks which hauls it to the disposal area	1	5,000	WS	B A A	TP-32 TP-33 TP-31	TC-FC LO-MDH UL-MDH
CR-02	C 2013	5 and 8	Double Roll Crusher - receives raw coal from BS-01, crushes it to 4" x 0 and then drops it to BC-03	500	4,380,000	FE	B A	TP-09 TP-10	TC-FE TC-FE
BC-03	C 2013	5 and 8	Belt Conveyor - receives sized raw coal from SS-01 and CR-02 and transfers it to the wet wash prep plant	500	4,380,000	PE	B B A	TP-08 TP-10 TP-11	TC-FE TC-FE TC-FW
SS-02	C 2014	5 and 8	Double Deck Screen - receives sized raw coal from BC-03, classifies it to 4" x 2" x 0 and then feeds it into the wet wash circuit	500	4,380,000	FW	B A	TP-11 TP-12	TC-FW TC-FW
Clean Coal Circuit									
BC-04	Not Yet Constructed *	5 and 8	Belt Conveyor - receives clean coal from the wet wash prep plant and transfers it to OS-02 (* Permitted in 2013, but not yet constructed as of December 2014)	300	2,628,000	PE	B A	TP-13 TP-14	TC-FW TC-MDH
OS-02	Not Yet Constructed *	5 and 8	Clean Coal Open Storage Pile - maximum 10,000 ton capacity, 18,869 ft ² base area and 60 ft height - receives clean coal from BC-04, stores it and underground feeders transfer it onto BC-07 or an endloader loads it to trucks for shipment (* Permitted in 2013, but not yet constructed as of December 2014)	300	2,628,000	WS	B A	TP-14 TP-15	TC-MDH LO-MDH
BC-05	C 2013	5 and 8	Belt Conveyor - receives clean coal from the wet wash prep plant and transfers it to BC-06	300	2,628,000	PE	B A	TP-16 TP-17	TC-FW TC-FE
BC-06	C 2013	5 and 8	Belt Conveyor - receives clean coal from BC-05 and transfers it to OS-03 or BC-10	300	2,628,000	PE	B A A	TP-17 TP-18 TP-19	TC-FE TC-PE TC-FE
OS-03	C 2013	5 and 8	Clean Coal Open Storage Pile with a Stacking Tube - maximum 25,000 ton capacity, 38,869 ft ² base area and 75 ft height - receives clean coal from BC-06, stores it and then underground feeders transfer it onto BC-07 or an endloader loads it to trucks	300	2,628,000	WS	B A A	TP-19 TP-21 TP-27	TC-FE LO-UC LO-MDH
BC-10	C 2014	5 and 8	Belt Conveyor - receives clean coal from BC-06 and transfers it to OS-05	300	2,628,000	PE	B A	TP-18 TP-20	TC-PE TC-PE
OS-05	C 2014	5 and 8	Clean Coal Open Storage Pile with a Stacking Tube - maximum 25,000 ton capacity, 38,869 ft ² base area and 75 ft height - receives clean coal from BC-10, stores it and then underground feeders transfer it onto BC-07 or an endloader loads it to trucks	300	2,628,000	WS	B A A	TP-20 TP-22 TP-27	TC-PE LO-UC LO-MDH
BC-07	C 2013	5 and 8	Belt Conveyor - receives clean coal from OS-03 and OS-05 and transfers it to BC-08	3,500	2,628,000	PE	B B A	TP-21 TP-22 TP-23	LO-UC LO-UC TC-FE
BC-08	C 2013	5 and 8	Belt Conveyor - receives clean coal from BC-07 and transfers it to BS-02	3,500	2,628,000	PE	B A	TP-23 TP-24	TC-FE TC-FE
BS-02	C 2013	5 and 8	Surge Bin - 400 ton capacity - receives clean coal from BC-08 and drops it to BS-03	3,500	2,628,000	FE	B A	TP-24 TP-25	TC-FE TC-FE
BS-03	C 2013	5 and 8	Loadout Bin - 220 ton capacity - receives clean coal from BS-02 and loads it to railcars	3,500	2,628,000	FE	B A	TP-25 TP-26	TC-FE LR-TC
Refuse Circuit									
BC-09	C 2013	5 and 8	Belt Conveyor - receives refuse from the wet wash prep plant and transfers it to BS-04	300	2,628,000	PE	B A	TP-28 TP-29	TC-FW TC-FE

Equipment ID #	Date of Construction, Reconstruction or Modification ¹	G10-D Applicable Sections ²	Emission Unit Description	Maximum Capacity		Control Device ³	Associated Transfer Points		
				TPH	TPY		Location: B - Before A - After	ID. No.	Control Device ³
BS-04	C 2013	5 and 8	Truck Loadout Bin - 100 ton capacity - receives refuse from BC-09 and loads it to trucks which hauls it to the disposal area	300	2,628,000	FE	B A A	TP-29 TP-30 TP-31	TC-FE LO-MDH UL-MDH

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 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.

³ Control Device Abbreviations: FE - Full Enclosure; FW - Full Enclosure with Water Sprays; PE - Partial Enclosure; PW - Partial Enclosure with Water Sprays; WS - Water Sprays; FC - Fixed Chute; and NC - No Control.

Reciprocating Internal Combustion Engines

Emission Unit ID No.	Emission Unit Description (Make, Model, Serial No., etc.)	Year Manufactured	Year Installed	Design Capacity (Bhp/rpm)
Gen Set	Cummins	2013	2015	324 / 1,800

Reciprocating Internal Combustion Engines (R.I.C.E.) Information

Emission Unit ID No.	Subject to 40CFR60 Subpart IIII?	Subject to 40CFR60 Subpart JJJJ?	Subject to Sections 9.1.4/9.2.1 (Catalytic Reduction Device)
Gen Set	Yes - EPA Tier III Certified	No	No

Storage Tanks

Source ID No.	Status	Content	Design Capacity			Orientation
			Volume	Diameter	Throughput	
T1	NEW	#2FO	2,000 gal	5'	70,000 gal/year	HORZ

DESCRIPTION OF FUGITIVE EMISSIONS

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 work areas. The haulroads and work areas will be controlled by the mine site water truck in accordance with section E.6.c.i. of the General Permit. The water truck 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. New course rock base material will be added to unpaved haulroads as needed.

SITE INSPECTION

On May 15, 2014, Mike Kolb of the DAQ's Compliance and Enforcement Section attempted to perform a full on-site targeted inspection. Mr. Kolb contacted the company's consultant Donna Toler from P & A Engineers and Consultants to see if the facility had been constructed yet. Ms. Toler contacted Al Combs and received the following response: "Donna - we have started the plant construction. Some preliminary piling work has been done on the loadout but we are still a few months away from completion. I will keep you advised." Therefore, Mr. Kolb assigned a status code of 41: Not In Operation.

The cover letter with application G10-D153 stated that the nearest resident will be 700 feet away and that "there are no parks, schools, senior citizen centers, or public areas located near the facility." However, after construction is completed, the facility will be inspected on a predetermined schedule by the DAQ's Compliance and Enforcement Section.

Directions to the facility from Charleston are to take Interstate I-64 East/I-77 South and travel 52.5 miles toward Beckley, take the WV-16/Roberts C. Byrd Dr. Exit 42 toward WV-97/Mabscott and travel 0.6 miles, merge onto WV-16 S / Robert C. Byrd Dr. toward WV-97 W/Sophia/Mullens and travel 3.3 miles, stay straight to go onto WV-121 S/ Coalfields Expressway and travel 4.4 miles, turn right onto Slab Fork Rd. /CR-34 and travel 3.4 miles, turn left to stay on Slab Fork Road/CR-34 (Slab Fork Rd. is 0.4 miles past Bailey Branch Rd) and travel 0.3 miles, Slab Fork Rd. /CR-34 becomes WV-54/WV-97 and travel 5.8 miles, turn right onto WV-97/Saulsville Mtn. Road and travel 5.4 miles, turn right onto Bearhole Road/WV-97 and travel 6.7 miles, turn left onto WV-10/Appalachian Hwy/WV-97 and travel 0.3 miles, take 1st left onto River Road/WV-10 and travel 0.8 miles, turn right onto Pinnacle Ave./WV-16 and travel 17.2 miles, turn left onto WV-16 S/McDowell St. and travel 1.7 miles, turn right onto US-52/WV-16/Coney Island Road and travel 5.6 miles, turn left onto WV-16/Tennessee Ave. and travel 4.8 miles to Caretta, WV and the proposed location will be on the left side of the road (just past where County Route 16-1 intersects on the right).

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

The proposed addition of Gen Set will result in an increase in the facility's potential to discharge. Refer to the following table for a summary of the facility's increase in the potential to discharge:

Source ID No.	Emission Source ID No.	Pollutant	Maximum Emissions	
			lb/hour	TPY
Gen Set	Gen Set	Nitrogen Oxides (NO _x)	10.044	7.834
		Carbon Monoxide (CO)	2.1643	1.688
		Volatile Organic Compounds (VOC)	0.8003	0.624
		Sulfur Dioxide (SO ₂)	0.6642	0.518
		Particulate Matter<10 microns (PM ₁₀)	0.7128	0.556
		Formaldehyde	0.00221	0.001726

Total HAP's calculated for Gen Set are 0.00713 PPH and 0.005544 TPY and summarized in the following table.

Hazardous Air Pollutants	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Benzene	0.00175	0.001365
Toluene	0.00077	0.000598
Xylenes	0.00053	0.000417
1,3-Butadiene	0.000073	0.0000572
Formaldehyde	0.00221	0.001726
Acetaldehyde	0.00144	0.001122
Acrolein	0.00017	0.000135
Naphthalene	0.00016	0.000124
Total HAP's	0.007103	0.005544

The proposed modification will result in a new potential to discharge controlled particulate matter emissions of 144.11 PPH and 628.62 TPY of particulate matter (PM), of which 30.45 PPH and 130.80 TPY will be particulate matter less than 10 microns in diameter (PM₁₀). Refer to the following table for a complete summary of the proposed facility-wide potential to discharge for PM and PM₁₀:

<i>- New Facility-wide Emissions Total - Caretta Minerals, LLC Caretta Prep Plant - G10-D153A</i>	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Open Storage Pile Emissions	0.17	0.75	0.08	0.35
Unpaved Haulroad Emissions	138.38	606.11	27.35	119.79
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	<i>138.55</i>	<i>606.85</i>	<i>27.43</i>	<i>120.14</i>
Point Source Emissions				
Equipment Emissions	4.83	21.16	2.30	10.07
Transfer Point Emissions	0.02	0.05	0.01	0.02
Gen Set	0.71	0.56	0.71	0.56
<i>Point Source Emissions Total (PTE)</i>	<i>5.56</i>	<i>21.76</i>	<i>3.02</i>	<i>10.66</i>
FACILITY EMISSIONS TOTAL	144.11	628.62	30.45	130.80

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The modification of Caretta Minerals, LLC's existing wet wash coal preparation 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 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 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 involve the addition of one diesel fired generator, which is defined as an affected facility and subject to 40 CFR 60 NSPS Subpart III. The applicant has submitted an application for a G10-D general permit registration to modify. The applicant published a Class I legal advertisement in *The Welch News, Inc.* on March 25, 2015 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 facility 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 addition does not involve the construction or modification of any equipment that are defined as affected facilities in 40 CFR 60 Subpart Y. Therefore, the proposed modification is *not* 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 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.

45CSR16 Standards of Performance for New Stationary Sources
40 CFR 60 Subpart III: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The provisions of Subpart III are applicable to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) which are manufactured after April 1, 2006, are not fire pump engines and commence construction after July 11, 2005. For the purposes of Subpart III, the date that construction commences is the date the engine is ordered by the owner or operator.

Gen Set is a 2013 Cummins rated for 324 hp (242 kW) at 1,800 rpm and will power temporary light towers. Gen Set is a lean burn four stroke and meets EPA Tier 3 emissions. The maximum annual operation is 1,560 hours per year. In accordance with § 60.4200 (2), this engine is subject to Subpart III because it was manufactured after April 1, 2006 and commenced construction after July 11, 2005.

In accordance with § 60.4207(b), "Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel."

40 CFR 89 Control of Emissions From New and In-use Nonroad Compression-Ignition Engines

This part applies to all compression-ignition nonroad engines except those specified in paragraph (b) of this section. This means that the engines for which this part applies include but are not limited to compression-ignition engines exempted from the requirements of 40 CFR Part 92 by 40 CFR 92.207 or 40 CFR Part 94 by 40 CFR 94.907. This part applies as specified in 40 CFR part 60 subpart III, to compression-ignition engines subject to the standards of 40 CFR part 60, subpart III.

In 40 CFR 89 Section 112, exhaust emission from nonroad engines to which this subpart is applicable shall not exceed the applicable exhaust emission standards contained in Table 1, as follows: for $225 \geq kW \leq 450$ Tier 3 (2006 model year and later), the applicable emission standards are NMHC+NO_x - 4.0 g/kW-hr; CO - 3.5 g/kW-hr; and PM - 0.20 g/kW-hr.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the facility 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 potential to emit will be 11.01 TPY for PM₁₀ (open storage piles constructed or modified after May 27, 2009 and point sources combined), which is less than the 45CSR30 threshold of 100 TPY of a regulated air pollutant used to define a major stationary source. Therefore, the facility will be a nonmajor source subject to 45CSR30. The facility is not subject to the permitting requirements of 45CSR30 and will be classified as a deferred source.

The proposed modification of Caretta Minerals, LLC'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, the facility 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 potential to emit will be 22.51 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.

45CSR16 Standards of Performance for New Stationary Sources
40 CFR 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The proposed storage tank T1 will not be subject to 40 CFR 60 Subpart Kb. Subpart Kb applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification commenced after July 23, 1984. The application indicates that storage tank T1 will have a maximum capacity of 7.57 cubic meters (m³) (2,000 gallons), and therefore will be exempt from the General Provisions (part 60, subpart A) and from the provisions of Subpart Kb.

40 CFR 63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

According to the RICE NESHAP Summary of Requirements, new and reconstructed

stationary non-emergency compression ignition engine constructed on or after June 12, 2006 and located at an area source of HAP are subject to 40 CFR part 60, subpart III (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines).

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Other than PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter), which are non-toxic pollutants, the only non criteria regulated pollutants that are addressed by this permit application are the relatively small amount (approximately 11.09 pounds per year) of Hazardous Air Pollutants that are the normal byproduct of diesel combustion.

Small amounts of non-criteria regulated hazardous or toxic air pollutants such as benzene, ethylbenzene, toluene, xylenes and formaldehyde may be emitted when fuels are combusted in reciprocating internal combustion engines. Due to the typically small amounts emitted, these non-criteria regulated hazardous/toxic pollutants should not adversely impact an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare.

Acetaldehyde:

Acetaldehyde is mainly used as an intermediate in the synthesis of other chemicals. It is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol. Acute (short-term) exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract. Symptoms of chronic (long-term) intoxication of acetaldehyde resemble those of alcoholism. Acetaldehyde is considered a probable human carcinogen (Group B2) based on inadequate human cancer studies and animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

Acrolein:

Acrolein is primarily used as an intermediate in the synthesis of acrylic acid and as a biocide. It may be formed from the breakdown of certain pollutants in outdoor air or from the burning of organic matter including tobacco, or fuels such as gasoline or oil. It is toxic to humans following inhalation, oral or dermal exposures. Acute (short-term) inhalation exposure may result in upper respiratory tract irritation and congestion. No information is available on its reproductive, developmental, or carcinogenic effects in humans, and the existing animal cancer data are considered inadequate to make a determination that acrolein is carcinogenic to humans.

Benzene:

Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust. Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans

occupationally exposed to benzene. EPA has classified benzene as a Group A, human carcinogen.

Formaldehyde:

Formaldehyde is used mainly to produce resins used in particle board products and as an intermediate in the synthesis of other chemicals. Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute (short-term) and chronic (long-term) inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. EPA considers formaldehyde a probable human carcinogen (Group B1).

Naphthalene:

Naphthalene is used in the production of phthalic anhydride; it is also used in mothballs. Acute (short-term) exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion. Chronic (long-term) exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Hemolytic anemia has been reported in infants born to mothers who "sniffed" and ingested naphthalene (as mothballs) during pregnancy. Available data are inadequate to establish a causal relationship between exposure to naphthalene and cancer in humans. EPA has classified naphthalene as a Group C, possible human carcinogen.

Toluene:

The acute toxicity of toluene is low. Toluene may cause eye, skin, and respiratory tract irritation. Short-term exposure to high concentrations of toluene (e.g., 600 ppm) may produce fatigue, dizziness, headaches, loss of coordination, nausea, and stupor; 10,000 ppm may cause death from respiratory failure. Ingestion of toluene may cause nausea and vomiting and central nervous system depression. Contact of liquid toluene with the eyes causes temporary irritation. Toluene is a skin irritant and may cause redness and pain when trapped beneath clothing or shoes; prolonged or repeated contact with toluene may result in dry and cracked skin. Because of its odor and irritant effects, toluene is regarded as having good warning properties. The chronic effects of exposure to toluene are much less severe than those of benzene. No carcinogenic effects were reported in animal studies. Equivocal results were obtained in studies to determine developmental effects in animals. Toluene was not observed to be mutagenic in standard studies.

Xylene:

Commercial or mixed xylene usually contains about 40-65% m-xylene and up to 20% each of o-xylene and p-xylene and ethyl benzene. Xylenes are released into the atmosphere as fugitive emissions from industrial sources, from auto exhaust, and through volatilization from their use as solvents. Acute (short-term) inhalation exposure to mixed xylenes in humans results in irritation of the eyes, nose, and throat, gastrointestinal effects, eye irritation, and neurological effects. Chronic (long-term) inhalation exposure of humans to mixed xylenes results primarily in central nervous system (CNS) effects, such as headache, dizziness, fatigue, tremors, and incoordination; respiratory, cardiovascular, and kidney effects have also been reported. EPA has classified mixed xylenes as a

Group D, not classifiable as to human carcinogenicity.

AIR QUALITY IMPACT ANALYSIS

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

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 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. No comments were received during the comment period. Therefore, the granting of a General Permit G10-D registration to Caretta Minerals, LLC for the modification of their existing wet wash coal preparation plant located near Caretta, McDowell County, WV is hereby recommended.



Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

May 13, 2015

Date