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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3178
Plant ID No.: 047-00151
Applicant: West Virginia Coal Reclamation Company, LLC
Facility Name: Bottom Creek - Kimball Facility
Location: Kimball, McDowell County
SIC Code: 1221 (Bituminous Coal & Lignite - Surface)
NAICS Code: 212111 (Bituminous Coal and Lignite Surface Mining)
Application Type: Construction
Received Date: March 13, 2014
Engineer Assigned: Dan Roberts
Fee Amount: \$2,000
Date Received: March 14, 2014
Complete Date: May 1, 2014
Applicant Ad Date: March 19, 2014
Newspaper: *The Welch News*
UTM Coordinates: Easting: 456.9396 km Northing: 4141.9892 km Zone: 17
Lat/Lon Coordinates: Latitude: 37.423714 Longitude: -81.486667 NAD83
Description: Construction of a coal screening facility which will consist of six open storage piles, two screens, one crusher, one DriJet X-ray separator, nine associated belt conveyors, one Caterpillar XQ175 Rental EPA Tier 3 generator and one Sullair 900H AF air compressor.

BACKGROUND

West Virginia Coal Reclamation Company, LLC proposes to construct a screening operation near Kimball, McDowell County, WV. This proposed operation will include one scalping screen, one primary screen and one x-ray pneumatic sorting screen.

On April 3, 2014, the writer and Bev McKeone met with Charles Roos and Joe Wingle from Mineral Separation Technologies, which developed and manufactured the DriJet separator. Mr. Roos and Mr. Wingle explained the process. A scalping screen, crusher and primary screen sort the coal to obtain the optimal 2" x ½" size material. This sized coal is fed onto a belt conveyor as a thin layer. The bed of material passes through a proprietary dual-energy X-ray analyzer that subjects the

particles to hundreds of sequential X-ray scans. The X-rays transmit through the bed of solids in proportion to the atomic number of the components present in each particle, which makes it possible to distinguish coal (organic matter composed mostly of carbon with a low atomic number) from rock (inorganic mineral matter composed of various elements such as Si and Al with higher atomic numbers). The resolution and speed of the scanner and associated electronics is of sufficient quality so that a compositional profile of each particle can be reconstructed in fractions of a second. Once identified, controlled microbursts of compressed air from a horizontal array of pneumatically actuated jets divert unwanted particles of rock into the reject stream, while coal particles follow their normal trajectory in to the clean coal product stream.

This system offers many benefits for processing course coal, which include mechanical simplicity, high capacity, low cost, and minimal environmental impacts. Also, the compact size and low unit cost of sorter technology improves the viability of separating rock from run-of-mine coal as close to the working face as possible utilizing a system that is integrated within the production process so that the surface disposal of wastes and water demands could be minimized.

Pocahontas Land Corporation owns all of the land of the affected area of this application in fee except for the refuse deposits and coal within the refuse deposits which were sold to the applicant along with the Pocahontas No. 3 seam of coal. All the other actual underground seams in the affected area are currently leased by Poca Land to National Resources, Inc. and much of the area being permitted under this application is also currently bonded by Bluestone Coal Corporation under a sublease with National Resources, Inc. Under DEP Permit No. U-4028-89. The applicant has an agreement with Bluestone Coal Corporation allowing it to use and overbond the areas of U-4028-89.

Reclamation of these refuse deposits is expected to take 12-18 months of operation.

DESCRIPTION OF PROCESS

This system is designed to reprocess refuse material for clean coal recovery. The feed stock will be trucked from an old refuse fill in the Bottom Creek area which is approximately 120 feet deep and consists of a lot of handpicked coal with about 32% ash content.

Refuse material is delivered by truck to open stockpile OS-01(SW-WS) @ TP-01(UL-MDH); transferred to scalping screen SS-01(PE) by front-end loader @ TP-02(UD-MDH); where oversize rock material simply scalps off to stockpile OS-04(SW-WS) @ TP-03(TC-MDH) and is cleaned up by a front-end loader and loaded to trucks as maintenance material @ TP-04(LO-MDH) and transported to the rock refuse pile.

Coal and 2x0 material transfers to belt BC-01(NC) @ TP-05(TC-PE); to crusher CR-01(FE) @ TP-06(TC-PE); to belt BC-02(NC) @ TP-07(TC-FE); and to screen SS-02(PE) @ TP-08(TC-PE). Screen SS-02 further separates crushed material by sending reject to stockpile OS-03(SW-WS) via belt BC-03(NC) @ TP-09(TC-FE) thru TP-12(UL-MDH); sending fines to stockpile OS-04(SW-WS) @ TP-13(TC-FE) thru TP-15(LO-MDH); and to the final material separation unit bin BS-01(PE) via belt BC-05(NC) @ TP-16(TC-FE) and TP-17(TC-MDH).

Material from bin BS-01 is transferred to the x-ray unit, designated as screen SS-03 (FE), via belts BC-06(PE) and BC-07(PE) @ TP-18(TC-PE) thru TP-20(TC-FE) where it is further separated by enclosed air jets – sending reject material to stockpile OS-05(SW-WS) via BC-08(NC) @ TP-21(TC-FE) thru TP-24(UL-MDH); and the final product to open stockpile OS-06(SW-WS) via belt BC-09(NC) @ TP-25(TC0FE) thru TP-27(LO-MDH).

A 2014 Caterpillar Model C6.6 4-cycle 1,800 rpm generator powers the system. A 2014 model Sullair 900H AF air compressor will provide ambient air at 900 CFM to separate coal from refuse. The pertinent information is included in the application.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from permit application R13-3178 and any amendments thereto:

| Equipment ID No. | Date of Construction, Reconstruction or Modification | Description | Maximum Capacity | | Control Equipment ² | Associated Transfer Points | | |
|---------------------------------------|--|--|------------------|---------|--------------------------------|--------------------------------|----------------------------------|----------------------------------|
| | | | TPH | TPY | | Location : B - Before A -After | ID. No. | Control Equipment ² |
| Raw Refuse Reclamation Circuit | | | | | | | | |
| OS-01 | C 2014 | Raw Refuse Open Storage Pile - maximum 5,000 ton capacity, base area of 8,869 ft ² and 30' height - receives raw refuse from trucks, stores it and then a front end loader transfers it to SS-01 | 200 | 520,000 | WS | B A | TP-01 TP-02 | UL-MDH UD-MDH |
| SS-01 | C 2014 | Scalping Screen - receives raw refuse from OS-01 via a front end loader, classifies it and then discharges the oversize rock onto OS-02 and the sized raw coal 2" x 0 onto BC-01 | 200 | 520,000 | PE | B A A | TP-02 TP-03 TP-05 | UD-MDH TC-PE TC-PE |
| OS-02 | C 2014 | Oversize Refuse Open Storage Pile - maximum 5,000 ton capacity, base area of 189 ft ² and 5' height - receives oversize rock from SS-01, stores it and then a front end loader transfers it to trucks for shipment to the disposal site | 5 | 12,500 | WS | B A A | TP-04 TP-11 TP-12 | LO-MDH LO-MDH UL-MDH |
| BC-01 | C 2014 | Raw Coal Conveyor - receives sized raw coal 2" x 0 from SS-01 and transfers it to CR-01 | 200 | 520,000 | NC | B A | TP-05 TP-06 | TC-PE TC-PE |
| CR-01 | C 2014 | Warrior 1800 Double Deck Screen - receives sized raw coal from BC-01, crushes it and then discharges it onto BC-02 | 200 | 520,000 | FE | B A | TP-06 TP-07 | TC-PE TC-PE |
| BC-02 | C 2014 | Raw Coal Conveyor - receives crushed raw coal from CR-01 and transfers it to SS-02 | 200 | 520,000 | NC | B A | TP-07 TP-08 | TC-FE TC-PE |
| SS-02 | C 2014 | Primary Screen - receives crushed raw coal from BC-02, classifies it and then discharges the oversize reject onto BC-03, fines onto BC-04 and the sized feed coal onto BC-05 | 200 | 520,000 | PE | B A A A | TP-08 TP-09 TP-13 TP-16 | TC-PE TC-FE TC-FE TC-FE |
| BC-03 | C 2014 | Oversize Reject Conveyor - receives oversize reject from SS-02 and transfers it to OS-03 | 100 | 260,000 | NC | B A | TP-09 TP-10 | TC-FE TC-MDH |
| OS-03 | C 2014 | Oversize Reject Open Storage Pile - maximum 2,000 ton capacity, base area of 3,869 ft ² and 20' height - receives oversize reject from BC-03, stores it and then a front end loader transfers it to trucks for transport to the disposal site | 100 | 260,000 | WS | B A A | TP-10 TP-11 TP-12 | TC-MDH LO-MDH UL-MDH |
| BC-04 | C 2014 | Raw Coal Conveyor - receives fines from SS-02 and transfers it to OS-04 | 100 | 260,000 | NC | B A | TP-13 TP-14 | TC-FE TC-MDH |
| OS-04 | C 2014 | Fines Open Storage Pile - maximum 2,000 ton capacity, base area of 3,869 ft ² and 20' height - receives fines from BC-04, stores it and then a front end loader transfers it to trucks for transport from the facility | 100 | 260,000 | WS | B A | TP-14 TP-15 | TC-MDH LO-MDH |
| BC-05 | C 2014 | Raw Coal Conveyor - receives sized feed coal from SS-02 and transfers it to BS-01 | 200 | 520,000 | NC | B A | TP-16 TP-17 | TC-FE TC-MDH |
| BS-01 | C 2014 | Receiving Bin - 10 ton capacity - receives sized feed coal from BC-05, stores it temporarily and then drops it onto BC-06 | 200 | 520,000 | PE | B A | TP-17 TP-18 | TC-MDH |

| Equipment ID No. | Date of Construction, Reconstruction or Modification | Description | Maximum Capacity | | Control Equipment ² | Associated Transfer Points | | |
|------------------|--|---|------------------|---------|--------------------------------|--------------------------------|-------------------------|--|
| | | | TPH | TPY | | Location : B - Before A -After | ID. No. | Control Equipment ² |
| | | | | | | | | TC-PE |
| BC-06 | C 2014 | Raw Coal Conveyor - receives sized feed coal from BS-01 and transfers it to BC-07 | 200 | 520,000 | PE | B A | TP-18 TP-19 | TC-PE TC-PE |
| BC-07 | C 2014 | Raw Coal Conveyor - receives sized feed coal from BC-06 and transfers it to SS-03 | 200 | 520,000 | PE | B A | TP-19 TP-20 | TC-PE TC-FE |
| SS-03 | C 2014 | DriJet X-ray Separator - receives sized feed coal from BC-07, uses X-ray technology to separate it and then discharges the reject onto BC-08 and the clean product coal onto BC-09 | 200 | 520,000 | FE | B A | TP-20 TP-21 TP-25 | TC-FE TC-FE TC-FE |
| BC-08 | C 2014 | Reject Conveyor - receives reject from SS-03 and transfers it to OS-05 | 100 | 260,000 | NC | B A | TP-21 TP-22 | TC-FE TC- MDH |
| OS-05 | C 2014 | Reject Open Storage Pile - maximum 2,000 ton capacity, base area of 3,869 ft ² and 20' height - receives reject from BC-08, stores it and then a front end loader transfers it to trucks for transport to the disposal site | 100 | 260,000 | WS | B A A | TP-22 TP-23 TP-24 | TC- MDH LO- MDH UL- MDH |
| BC-09 | C 2014 | Product Coal Conveyor - receives clean product coal from SS-03 and transfers it to OS-06 | 200 | 520,000 | NC | B A | TP-25 TP-26 | TC-FE TC- MDH |
| OS-06 | C 2014 | Product Coal Open Storage Pile - maximum 5,000 ton capacity, base area of 8,869 ft ² and 25' height - receives clean product coal from BC-09, stores it and then a front end loader transfers it to trucks for transport from the facility | 200 | 520,000 | WS | B A | TP-26 TP-27 | TC- MDH LO- 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 Control Device Abbreviations: FE - Full Enclosure; PE - Partial Enclosure; WS - Water Sprays; MDH - Minimize Drop Height; and NC - No Controls.

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

| Emission Unit ID No. | Emission Unit Description (Make, Model, Serial No., etc.) | Year Constructed/ Year Installed | Design Capacity (Bhp/rpm) |
|----------------------|---|----------------------------------|---------------------------|
| GEN1 | Generac OHVI V-Twin | 2014/2014 | 235 bhp/1,800 rpm |
| AC1 | Caterpillar C-9ATAAC | 2014/2014 | 300 bhp/1,800 rpm |

| Emission Unit ID No. | Subject to 40CFR60 Subpart III? | Subject to 40CFR60 Subpart JJJJ? | Subject to Sections 9.1.4/9.2.1 (Catalytic Reduction Device) |
|----------------------|---------------------------------|----------------------------------|--|
| GEN1 | Yes | No | No |
| AC1 | Yes | No | No |

Storage Tanks

| Source ID No. | Status | Content | Design Capacity | | | Orientation | Liquid Height |
|---------------|--------|---------|-----------------|----------|------------|-------------|---------------|
| | | | Volume | Diameter | Throughput | | |
| T1 | NEW | #2FO | 2,000 gal | 5' | 70,000 gal | HORZ | 4' |

SITE INSPECTION

A site inspection was not deemed to be required at this time due to location proposed and the

size and scope of the proposed 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 I-77 South/I-64 East toward Beckley and travel 53.7 miles, keep right and take Exit 40 for I-77 South toward Princeton/Bluefield and travel 39.8 miles, take Exit 1 for US-52 North toward Bluefield and travel 0.3 miles, merge onto US-52 North/John F. Nash Blvd toward US-460 and travel 1.8 miles, merge onto US-460 West toward Bluefield and travel 4.8 miles, turn right onto WV-290/W Cumberland Road and travel 0.1 miles, stay straight to go onto W Cumberland Road and travel 0.1 miles, take the first right onto Maryland Avenue and travel 0.7 miles, Maryland Avenue becomes Cherry Street and travel 0.7 miles, Cherry Street becomes US-52 North and travel 23.9 miles, turn right onto CR 52-8/Bottom Creek Road and travel approximately 0.5 miles to the proposed site.

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 , Volume I “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. Emission factors for the diesel engines were taken from AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources , Section 3: Gasoline and Diesel Industrial Engines (10/96). The emission 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 DriJet X-ray separator will be powered by a XQ175 2014 model Caterpillar C6.6 4-cycle diesel engine labeled GEN1 and rated for 235 hp (175 kW) at 1,800 rpm. Engine GEN1 is a diesel lean burn 2 stroke from engine family BPKXL06.6PJ1 and are EPA Tier 3 and CARB certified for non-road mobile applications. Engine GEN1 shall not exceed 2,500 hours of operation per year.

The DriJet X-ray separator will utilize a 2014 model Sullair 900H AF air compressor to provide ambient air at 900 CFM to separate coal from refuse. The compressor engine is a diesel lean burn 4 stroke Caterpillar CAT C-9ATAAC (T3) with serial number JSC04091. The compressor engine is rated for 300 hp (224 kW) at 2,200 rpm and is Tier 3 and CARB compliant. The compressor engine shall not exceed 2,500 hours of operation per year.

The maximum permitted emission rates for Engine GEN1 and the compressor shall not exceed the following base on a maximum of 2,500 hours of operation per year:

| Pollutant | Emission Factor (lb/hp-hr)¹ | Engine GEN1 | Compressor | Combined Emissions |
|------------------|---|--------------------|-------------------|---------------------------|
|------------------|---|--------------------|-------------------|---------------------------|

| | | Hourly Emissions (lb/hour) | Annual Emissions (TPY) | Hourly Emissions (lb/hour) | Annual Emissions (TPY) | Hourly Emissions (lb/hour) | Annual Emissions (TPY) |
|------------------|----------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|
| NO _x | 0.03100 | 7.29 | 9.11 | 9.30 | 11.63 | 16.59 | 20.74 |
| CO | 0.00668 | 1.57 | 1.96 | 2.00 | 2.51 | 3.57 | 4.47 |
| SO ₂ | 0.00205 | 0.48 | 0.60 | 0.62 | 0.77 | 1.10 | 1.37 |
| PM ₁₀ | 0.00220 | 0.52 | 0.65 | 0.66 | 0.83 | 1.18 | 1.48 |
| TOC | 0.00247 | 0.58 | 0.73 | 0.74 | 0.93 | 1.32 | 1.66 |
| Total HAPs | various ² | 0.00711 | 0.008884 | 0.00695 | 0.008693 | 0.01 | 0.02 |

¹ Emission factors were taken from AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources, Section 3: Gasoline and Diesel Industrial Engines (10/96), Table 3.3-1. Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines.

² Emission factors were taken from AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources, Section 3: Gasoline and Diesel Industrial Engines (10/96), Table 3.3-2. Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engines.

The proposed construction will result in a potential to discharge controlled emissions of 78.05 pounds per hour (PPH) and 99.15 tons per year (TPY) of particulate matter (PM), of which 28.39 PPH and 36.21 TPY will be particulate matter less than 10 microns in diameter (PM₁₀). Refer to the following table for a summary of the proposed potential to discharge controlled emissions of PM and PM₁₀:

| <i>- Proposed Facility-wide Emissions - West Virginia Coal Reclamation Company, LLC - R13-3178</i> | Controlled PM Emissions | | Controlled PM₁₀ Emissions | |
|--|------------------------------------|--------------|---|--------------|
| | lb/hour | TPY | lb/hour | TPY |
| Fugitive Emissions | | | | |
| Open Storage Pile Emissions | 0.05 | 0.21 | 0.02 | 0.10 |
| Unpaved Haulroad Emissions | 49.35 | 61.74 | 14.26 | 17.84 |
| Paved Haulroad Emissions | 0.00 | 0.00 | 0.00 | 0.00 |
| <i>Fugitive Emissions Total</i> | <i>49.40</i> | <i>61.95</i> | <i>14.29</i> | <i>17.94</i> |
| Point Source Emissions | | | | |
| Equipment Emissions | 24.80 | 32.24 | 11.66 | 15.15 |
| Transfer Point Emissions | 2.67 | 3.48 | 1.26 | 1.64 |
| Engine GEN1 | 0.52 | 0.65 | 0.52 | 0.65 |
| Compressor | 0.66 | 0.83 | 0.66 | 0.83 |
| <i>Point Source Emissions Total (PTE)</i> | <i>28.65</i> | <i>37.20</i> | <i>14.10</i> | <i>18.27</i> |
| FACILITY EMISSIONS TOTAL | | | | |
| | 78.05 | 99.15 | 28.39 | 36.21 |

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the facility. The proposed construction of a 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 proposed facility will be subject to the requirements of 45CSR5 because it will meet 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 construction is subject to the requirements of 45CSR13 because it will result in a potential to discharge controlled emissions greater than six (6) pounds per hour and ten (10) tons per year of a regulated air pollutant (PM and PM₁₀) and involve the construction of equipment and open storage piles subject to NSPS Subpart Y. The applicant has submitted an application for a construction permit. The applicant published a Class I legal advertisement in *The Welch News* on March 19, 2014 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 proposed coal preparation 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 facility should be in compliance with 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.

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.

The DriJet X-ray separator will be powered by a 2014 model XQ175 Caterpillar C6.6 4-cycle diesel engine labeled GEN1 and rated for 235 hp (175 kW) at 1,800 rpm. Engine GEN1 is a diesel lean burn 2 stroke from engine family BPKXL06.6PJ1 and are EPA Tier 3 and CARB certified for non-road mobile applications. 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.

The DriJet X-ray separator will utilize a 2014 model Sullair 900H AF air compressor to provide ambient air at 900 CFM to separate coal from refuse. The compressor engine is a diesel lean burn 4 stroke Caterpillar CAT C-9ATAAC (T3) with serial number JSC04091. The compressor engine is rated for 300 hp (224 kW) at 2,200 rpm and is Tier 3 and CARB compliant. In accordance with § 60.4200 (2), this compressor 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.

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 18.37 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 subject to 45CSR30 and remain classified as a Title V deferred non-major source.

The proposed construction of a coal preparation plant will not 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 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 37.41 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.

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 particulate matter and 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 very small amount of Hazardous Air Pollutants that are the normal byproduct of diesel combustion.

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 proposed size and location of this facility and the extent of the proposed construction. This facility will be 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 facility will 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 with example forms included as Appendix A to Permit R13-3178. An example form for tracking the amount of water applied through the water truck is included as Appendix B to Permit R13-3178. 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.

RECOMMENDATION TO DIRECTOR

The information contained in this construction 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 West Virginia Coal Reclamation Company, LLC for the construction of the Bottom Creek - Kimball Facility to be located near Kimball, McDowell County, WV is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

May 2, 2014

Date