



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • Fax: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-0760E
Plant ID No.: 049-00019
Applicant: Consolidation Coal Company
Facility Name: Loveridge Preparation Plant
Location: Fairview, Marion County, WV
SIC Codes: 1222 (Bituminous Coal & Lignite - Underground)
NAICS Codes: 212112 (Bituminous Coal Underground Mining)
Application Type: Modification
Received Date: September 17, 2014
Engineer Assigned: Dan Roberts
Fee Amount: \$2,000
Date Received: September 19, 2014
Applicant's Ad Date: September 17, 2014
Newspaper: *The Dominion Post*
Complete Date: January 7, 2015
UTM Coordinates: Easting: 561.6 km Northing: 4383.9 km Zone: 17
Lat/Lon Coordinates: Latitude 39.602625 Longitude -80.282494 NAD83
Description: Modification to add conveyor belt CB8A and batch weigh loadout bin BWL and the associated transfer point TP-19B which are rated for 3,500 TPH and 9,198,000 TPY.

BACKGROUND

Consolidation Coal Company proposes to modify their existing wet wash coal preparation plant with a thermal dryer located near Fairview, Marion County, WV. Pending permit R13-0760E will supercede and replace current permit R13-0760D, which was approved on May 12, 2008.

PROCESS DESCRIPTION

Consolidation currently receives coal by truck at raw coal Stockpile 2 at transfer point T010, by truck at transfer point T043 and from the on-site underground mine via Conveyor 1 (001). Conveyor 1 transfers raw deep mined coal to the Raw Coal Transfer Building which distributes it to Conveyor 2 (002), Conveyor 3 (005) or new Conveyor 21 (052). Conveyor 3 (005) transfers raw coal to Storage Bin 1 (006), which loads PAN trucks or drops to Conveyor 4 (008), which feeds the preparation plant. Conveyor 2 (002) transfers raw coal to Raw Coal Stockpile 1 (003A) via Stacking Tube 1, where it is pushed by dozer to Storage Bin 1 (006).

Conveyor 21 (052) transfer raw coal to Raw Coal Stockpile 1 (003A) via Stacking Tube 2. Raw coal will be fed to underground reclaim Conveyor 22 (053) which will transfer it to the existing preparation plant feed Conveyor 4 (008). The base area of the existing Stockpile 1 is 9.55 acres, as listed in Consolidation's Title V permit, and the storage limit is 450,000 tons.

Conveyor 4 (008) transfers raw coal to the wet wash preparation plant. After, the raw coal is cleaned, Conveyor 19 (037) transfers clean stoker coal to the stoker coal truck loadout and Conveyor 20 (051A) transfers clean stoker coal to the stoker coal railcar loadout. Conveyor 5 (013) transfers clean coal to Conveyor 6 (015). Conveyor 15 (034) transfers clean coal to the thermal dryer (045A).

The fluidized bed thermal dryer, manufactured by ENI Engineering Company, utilizes a Bigelow-Liptak forced draft burner has a maximum heat input of 182 MM Btu/hr, while burning a maximum of 7 tons of coal per hour, and uses the heat produced from the pulverized coal burners to dry the wet coal from the wet wash preparation plant. Directly heated air is used to dry the wet coal in the following way: combustion gas from the pulverized coal fired furnace is mixed with ambient air. The resulting hot gas is at 900-1050oF and contains roughly 85% air and 15% combustion products (~90,000 DSCFM total). The hot gas fluidizes the coal in a chamber containing a restriction deck. The fluidized coal travels on and across the bed which promotes evaporation of moisture from the coal. Most of the coal then falls over a weir and into air-lock hoppers, which discharge onto a transfer belt that conveys the dried coal to the dryer product belt. Some of the smaller sized coal is carried by the gas to a bank of four cyclones, which remove all but the finest material. Most of the fines collected by the cyclones discharge (via screw feeders) to the dried coal transfer belt. Some of the fines (~3.6 TPH) are used to fire the dryer furnace. Dryer feed rates range from a normal of 450 dry TPH to 600 dry TPH, depending on the slack content of the raw coal feed to the plant. Coal processing rates are dependent on a number of parameters including coal quality, coal size, and contract specifications.

Compliance with the particulate matter emissions from the dryer stack is achieved with a venturi scrubber operating at a pressure drop of 30 to 40" wc. The pressure drop occurs across an annular passage created by a restrictive cone centered in the venturi duct. Clarified overflow water from the preparation plant thickener is injected into the venturi at a rate of about 1300 gpm. The water is atomized across the annular passage and the droplets come into contact with the particulate matter in the gas. The resulting fines-laden water is then removed from the gas by cyclonic separator located at the base of the stack. The relatively particulate matter free gas leaves the stack saturated, at about 120oF, and containing some mist.

The dryer fuel rate ranges from roughly 2.5 to 3.5 TPH. The fuel sulfur content usually is between 2.4 and 3.0%. The high-energy gas-liquid contact in the venturi scrubber is designed to remove particulate matter, but it also absorbs SO₂. The amount of SO₂ removed by the venturi scrubber depends partly on the inlet water alkalinity. The natural alkalinity of the plant water does not provide enough removal to comply with the SO₂ regulation at burner fuel feed rates greater than 110 pounds per hour. Therefore, an SO₂ control system was installed to decrease the SO₂ emission from the unit. This is accomplished by spraying a small amount (up to 3 gpm) of caustic solution (20% NaOH) onto the dryer feed coal just before it enters the drying chamber. The caustic solution reacts with the SO₂ in the coal drying chamber, forming the salt Na₂SO₄, which leaves the drying chamber as a solid with the product coal. A metering pump delivers caustic solution to a spray header at the end of the conveyor belt that delivers feed coal to the dryer.

The thermal dryer is not equipped with equipment to control NO_x, VOC, or CO emissions from the stack. NO_x and CO emissions are minimized by controlling the pulverized coal combustion conditions. VOC emission are minimized by controlling the furnace and dryer chamber temperatures.

Dried clean coal drops to Conveyor 16 (035) which transfers to Conveyor 17 (036) which transfers to Conveyor 18 (036B) which transfers to Conveyor 6 (015).

Clean coal and dried clean coal are combined on Conveyor 6 (015) and transferred to Conveyor 7 (030) or Clean Coal Silo 1 (017), which drops to Conveyor 8 (018). Conveyor 7 (030) transfers clean coal to Conveyor 7A (030A) or Clean Coal Silo 2 (044), which drops to Conveyor 13 (031), which drops to Conveyor 8 (018). Conveyor 7A (030A) transfers clean coal to Clean Coal Silo 3 (044A), which drops to Conveyor 13A (031A), which transfers to Conveyor 8 (018).

With this application, existing Railcar and Truck Loadout (038A) will be removed. Conveyor 8 (018) will now transfer clean coal to the existing Conveyor 9 (032) or proposed Conveyor 8A (018A) instead. Conveyor 9 transfers the clean coal to the existing Unit Train Loadout 1 (032), where it is loaded to unit trains. Proposed Conveyor 8A will transfer the clean coal to the proposed Batch Weigh Loadout (038B), where it will be loaded to trucks or railcars.

Refuse from the preparation plant drops to Conveyor 10 (021), which transfers to Conveyor 11 (023), which transfers to Conveyor 12 (025), which transfers to Conveyor 14 (033), which drops to Refuse Bin 1 (027), which loads PAN trucks for transport to the refuse disposal area.

There is also a Lime Storage Silo 1 (046) and Rock Dust Silo 1 (048) located at the facility.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit applications R13-0760E, R13-0760D, R13-0760C, R13-0760B, R13-0760A and R13-0760:

Source ID	Emission Point ID	Equipment Description	Date of Construction, Reconstruction or Modification ¹	Maximum Design Capacity		Fugitive Control System/ Device ²
				TPH	TPY	
RAW COAL CIRCUIT						
001	Z01	Conveyor 1 - Mine slope belt to Raw Coal Transfer Building	pre 1974	3,000	26,280,000	FE
005	Z01	Conveyor 3 - Belt from Raw Coal Transfer Building to Raw Coal Storage Bin 1	pre 1974	3,000	26,280,000	FE
006	Z01	Storage Bin 1 - Raw Coal storage silo from Conveyor 3 and transfers to Conveyor 4; Storage capacity is 15,000 tons	pre 1974	2,000	17,520,000	FE
008	Z01	Conveyor 4 - Belt from Raw Coal Storage Bin 1 to Prep Plant	pre 1974	2,000	12,000,000	FE
002	Z01	Conveyor 2 - Belt from Raw Coal Transfer Building to Raw Coal Stockpile 1 Stacking Tube 1	1989	3,000	900,000	FE
003A	Z01	Raw Coal Stockpile 1 - Stockpile equipped with Stacking Tube 1 and Stacking Tube 2; Stockpile footprint is 9.55 acres with a storage capacity of 450,000 tons	2005	3,000	26,280,000	ST
052	Z01	Conveyor 21 - Belt from Raw Coal Transfer Building to Raw Coal Stockpile 1 Stacking Tube 2	2005	3,000	12,000,000	FE
053	Z01	Conveyor 22 - Belt from Raw Coal Stockpile 1 to Conveyor 4	2005	3,000	12,000,000	FE
007	Z01	Raw Coal Stockpile 2 - Stockpile footprint is 3.8 acres with a storage capacity of 70,000 tons	1993	1,800	210,000	MC
STOKER COAL CIRCUIT						
037	Z01	Conveyor 19 - Belt from Prep Plant to Stoker Coal Truck Loadout	pre 1974	300	1,800,000	FE
051A	Z01	Conveyor 20 - Belt from Prep Plant to Stoker Coal Railcar Loadout	pre 1974	300	1,800,000	FE
046	P003	Lime Storage Silo 1	pre 1974	NA	NA	NA
048	P004	Rock Dust Silo 1	pre 1974	NA	NA	NA
CLEAN COAL THERMAL DRYER CIRCUIT						
034	Z01	Conveyor 15 - Belt from Prep Plant to Thermal Dryer 1	1985	600	3,600,000	FE
045A	P002	Thermal Dryer - ENI Eng. Co. Fluidized Bed Dryer rated at 182MM BTU/hr Heat Input	1985	max 600 normal 450	3,600,000	4 Parallel Cyclones
045C	Z01	Thermal Dryer Furnace - Bigelow Liptak forced draft burner rated at 182MM BTU/hr Heat Input	1985	4.35 (TPH)	26,100	Horizontal Venturi Scrubber
035	Z01	Conveyor 16 - Belt from Thermal Dryer to Conveyor 17	1985	600	3,600,000	FE
036	Z01	Conveyor 17 - Belt from Conveyor 16 to Conveyor 18	1985	600	3,600,000	FE
036B	Z01	Conveyor 18 - Belt from Conveyor 17 to Conveyor 6	1985	600	3,600,000	FE
CLEAN COAL CIRCUIT						
013	Z01	Conveyor 5 - Belt from Prep Plant to Conveyor 6	pre 1974	1,800	10,800,000	FE
015	Z01	Conveyor 6 - Belt from Conveyor 5 and Conveyor 18 to Clean Coal Silo 1 or Conveyor 7	pre 1974	1,800	10,800,000	FE
CLEAN COAL STORAGE						
017	Z01	Clean Coal Silo 1 - Clean Coal storage silo from Conveyor 6 and transfers to Conveyor 8; Storage capacity is 10,500 tons	pre 1974	3,000	18,000,000	FE
030	Z01	Conveyor 7 - Belt from Conveyor 6 to Clean Coal Silo 2 or Conveyor 7A	1981	1,800	10,800,000	FE
044	Z01	Clean Coal Silo 2 - Clean Coal storage silo from Conveyor 6 and transfers to Conveyor 8; Storage capacity is 10,500 tons	1981	3,000	18,000,000	FE
031	Z01	Conveyor 13 - Belt from Clean Coal Silo 2 to Conveyor 8	1981	3,000	18,000,000	FE
030A	Z01	Conveyor 7A - Belt from Conveyor 7 to Clean Coal Silo 3	2006	1,800	10,800,000	FE
044A	Z01	Clean Coal Silo 3 - Clean Coal storage silo from Conveyor 6 and transfers to Conveyor 8; Storage capacity is 10,500 tons	2006	1,800 in / 3,000 out	10,800,000	FE
031A	Z01	Conveyor 13A - Belt from Clean Coal Silo 3 to Conveyor 8	2006	3,000	18,000,000	FE
CLEAN COAL SHIPPING BY TRUCK AND RAILCAR						
018	Z01	Conveyor 8 - Belt from Clean Coal Silo 1, Conveyor 13 and Conveyor 13A to Conveyor 8A or Conveyor 9	pre 1974/2006	3,000	18,000,000	FE

Source ID	Emission Point ID	Equipment Description	Date of Construction, Reconstruction or Modification ¹	Maximum Design Capacity		Fugitive Control System/ Device ²
				TPH	TPY	
018A	Z01	Conveyor 8A - Belt from Conveyor 8 to Batch Weight Loadout	C 2014	3,500	9,198,000	PE
032	Z01	Conveyor 9 - Belt from Conveyor 8 to Unit Train Loadout 1	M 2014 pre 1974/2006	3,500	18,000,000	FE
REFUSE CIRCUIT						
021	Z01	Conveyor 10 - Coarse refuse belt from Prep Plant to Conveyor 11	pre-1974	400	2,400,000	FE
023	Z01	Conveyor 11 - Coarse refuse belt from Conveyor 10 to Refuse Bin 2	pre-1974	400	2,400,000	FE
027A	Z01	Refuse Bin 2 - Coarse refuse bin from Conveyor 11 to Pan Truck Loading	pre-1974	400	2,400,000	FE
025	Z01	Conveyor 12 - Coarse refuse belt from Conveyor 11 to Conveyor 14	pre-1974	400	2,400,000	FE
033	Z01	Conveyor 14 - Coarse refuse belt from Conveyor 12 to Refuse Bin 1	1983	400	2,400,000	FE
027	Z01	Refuse Bin 1 - Coarse refuse belt from Conveyor 14 to Pan Truck Loading	1983	400	2,400,000	FE
HAULROADS						
049A	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049B	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049C	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049D	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049E	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049F	Z01	Unpaved Haulroad	pre-1974	NA	NA	WT
049G	Z01	Unpaved Haulroad	1993	NA	NA	WT
049H	Z01	Unpaved Haulroad	1993	NA	NA	WT
VOC EMISSION SOURCES						
009B	Z01	Froth Floatation Cell	1985	NA	None	None
009	P001	Vacuum Filter	1985	NA	None	None
047	Z01	Thickener	1985	NA	None	None
038A	Z01	Railcar Anti-Freeze Spray	Pre 1974	NA	None	None
051C	Z01	Stoker Coal Anti-Freeze Spray	Pre 1974	NA	None	None
S050A	Z01	No. 2 Diesel Fuel Storage Tank 1	1985	5,000 Gallons	None	None
S050B	Z01	No. 2 Diesel Fuel Storage Tank 2	1985	3,000 Gallons	None	None
S050C	Z01	No. 2 Diesel Fuel Storage Tank 3	1985	3,000 Gallons	None	None
S050D	Z01	No. 2 Diesel Fuel Storage Tank 4	1985	Gallons	None	None
S050E	Z01	Froth Floatation Agent Storage Tank 1	1985	Gallons	None	None
S050F	Z01	Anionic Flocculant Storage Tank 1	1985	Gallons	None	None
S050G	Z01	Antifreeze Storage Tank 1	1985	Gallons	None	None
S050H	Z01	Antifreeze Storage Tank 2	1985	Gallons	None	None
S050I	Z01	Dustrol Storage Tank 1	1985	Gallons	None	None
S050J	Z01	Dustrol Storage Tank 2	1985	Gallons	None	None
S050K	Z01	30 wt. Motor Oil Storage Tank 1	1985	Gallons	None	None
S050L	Z01	30 wt. Motor Oil Storage Tank 2	1985	Gallons	None	None
NA	None	Underground Mine	pre-1974	NA	None	None

¹ In accordance with 40 CFR 60 Subpart Y: all emissions from thermal dryers constructed, re-constructed or modified on or before April 28, 2008 shall be less than 20% opacity; coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems constructed, reconstructed, or modified on or before April 28, 2008 shall not discharge gases which exhibit 20 percent opacity or greater; and 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.

² Control Device abbreviations: FE - Full Enclosure; PE - Partial Enclosure; ST - Stacking Tube; WS - Water Sprays; WT - Water Truck; MC - Moisture Control; MD - Minimize Drop Height; N - None; NA - Not Applicable.

SITE INSPECTION

On June 9, 2014, John Moneyppenny of the DAQ's Compliance and Enforcement Section performed a full on-site targeted inspection. Mr. Moneyppenny's notes from the inspection were as

follows: “The differential pressure gauge for the venturi scrubber was not operating as required...pluggage issue. Have requested more records in order to determine the length of time that the gauge has been inoperable. The plant was operating during the inspection, no opacity or fugitive emissions were noted. Have requested other records also. David Roddy, Murray American Energy, 534-4726, 410-8403 is the environmental contact. The Company is no longer Consol.” The facility was found to be out of compliance at the time of the inspection and given a status code of 10 - Out of Compliance.

On March 15, 2014, Mr. Moneypenny received the 2013 Title V Annual Certification. Mr. Moneypenny’s notes from the review were as follows: “2013 Title V Annual Certification.....should contain deviations of the scrubber pressure drop discovered during last inspection information request.” The facility was given a status code of MV.

Directions from Charleston are to take I-77 N toward I-79/Parkersburg and travel 1.9 miles, stay right and take I-79 North and travel 135.0 miles towards Clarksburg, take Exit 136 for WV-273 toward Downtown Fairmont and travel 0.4 miles, turn left onto WV-273 and travel 0.8 miles, enter the next roundabout and take the 2nd exit onto State St/WV-273 and travel 0.2 miles, WV-273 becomes Jefferson St/County Hwy-19/73 and proceed for 0.3 miles, turn right onto Adams St/US-19 N/US-250 N and travel 0.1 miles, turn left onto Quincy St/US-19 N/US-250 N and travel 0.08 miles, take the 2nd left onto Jackson St/US-19 S/US-250 N and travel 0.3 miles, turn right onto Cleveland Ave/US-250 N and continue to follow US-250 N for 1.7 miles, turn right onto Pike St/County Hwy-250/32 and travel 1.1 miles, Pike St/County Hwy-250/32 becomes County Hwy-21 and proceed for 4.9 miles, turn left onto Paw Paw Creek Rd/County Hwy-17 and continue to follow County Hwy-17 for 3.4 miles to Fairview, WV, proceed on County Hwy-17 for approximately one mile, turn left onto Sugar Run Road and travel approximately 0.6 miles to the facility.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haulroads are based on AP-42 “Compilation of Air Pollution Emission Factors.” Control efficiencies were applied based on “Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations.” The emission factors for crushing/breaking and screening operations were obtained from the Air Pollution Engineering Manual - Air & Waste Management Association - June 1992. Emissions calculations were performed by the applicant’s consultant and were checked for accuracy by the writer.

The proposed modifications will result in an increase in the potential to discharge controlled emissions from point sources of 0.90 pounds per hour and 1.20 TPY of particulate matter (PM), of which 0.43 pounds per hour and 0.56 TPY will be particulate matter less than 10 microns in diameter (PM₁₀) and 0.06 pounds per hour and 0.08 TPY will be particulate matter less than 2.5 microns in diameter (PM_{2.5}). The writer used the DAQ’s G10-C Excel spreadsheet to calculate the increase in emissions to verify the increase in emissions calculations performed by the applicant’s consultant. A copy has been attached. Refer to the following table for a summary of the proposed increase in

emissions:

- Proposed Increase in Emissions - Consolidation Coal Company R13-0718D	Controlled PM Emissions		Controlled PM ₁₀ Emissions		Controlled PM _{2.5} Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Stockpile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
<i>Fugitive Emissions Total</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Point Source Emissions						
Crushing Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Screening Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Transfer Point Emissions	0.90	1.20	0.43	0.56	0.06	0.08
Baghouse 1	0.00	0.00	0.00	0.00	0.00	0.00
Thermal Dryer (filterable and condensible)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Point Source Emissions Total (PTE)</i>	<i>0.90</i>	<i>1.20</i>	<i>0.43</i>	<i>0.56</i>	<i>0.06</i>	<i>0.08</i>
INCREASE IN EMISSIONS						
	0.90	1.20	0.43	0.56	0.06	0.08

Refer to the following table for a complete summary of the facility's unchanged potential to discharge pollutants from the fluidized bed coal thermal dryer stack:

Pollutant	Emissions Limitations	
	Hourly (PPH)	Annual (TPY)
Volatile Organic Compounds (VOC)	135.6	406.8
Particulate Matter (PM)	40.0	120.0
Sulfur Dioxide (SO₂)	195.0	586.0
Oxides of Nitrogen (NO_x)	63.6	190.8
Carbon Monoxide (CO)	57.6	172.8

REGULATORY APPLICABILITY

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

45CSR4: To Prevent and Control the Discharge of Air Pollutants Into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors

The facility is subject to the requirements of 45CSR4 and shall not allow the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

45CSR5 To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants, Coal Handling Operations and Coal Refuse Disposal Areas

The facility is subject to the requirements of 45CSR5 because it meets the definition of "Coal Preparation Plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity), Section 4 (thermal dryer and stack requirements) and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed are in operation.

45CSR10 To Prevent and Control Air Pollution From the Emission of Sulfur Oxides

The existing facility is subject to all applicable requirements under 45CSR10, since the use of the thermal dryer subjects the facility to §45-10-4, Standards for Manufacturing source operations.

45CSR10 has requirements limiting in-stack SO₂ concentrations of "manufacturing processes. Previously, the DAQ has regulated thermal dryers as "manufacturing processes" subject to section 4.1 of 45CSR10.

Section 4.1 of Rule 10 requires that no in-stack SO₂ concentration exceed 2,000 parts per million by volume (ppmv) from any manufacturing process source operation. As noted, the thermal dryer furnace is defined as a "manufacturing process." Based on the estimated maximum SO₂ emission rate of the furnace and the stack parameters given in the application, the estimated worst-case in-stack SO₂ concentration was calculated to be 113.74 ppmv or 5.69% of the limit.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed modification is subject to the requirements of 45CSR13. The proposed modification involves the construction of one conveyor belt and one loadout bin and modification of one existing conveyor belt, which are defined as affected facilities in 40 CFR 60 Subpart Y. The proposed modification will result in an increase in the potential to discharge controlled emissions of a regulated air pollutant (PM, PM₁₀ and PM_{2.5}) of less than six pounds per hour and ten tons per year. The applicant submitted \$1,000 for the application fee and \$1,000 for the NSPS fee and published a Class I legal advertisement in *The Dominion Post* on September 17, 2014.

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

This wet wash coal preparation plant with a thermal dryer is subject to 40 CFR 60 Subpart Y because it was constructed and modified after October 24, 1974 and processes more than 200 tons of coal per day. The proposed modification will include the construction of one

conveyor belt and one loadout bin and modification of one existing conveyor belt, which are defined as affected facilities in 40 CFR 60 Subpart Y. Therefore, the coal processing equipment is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants. The facility should be in compliance with the following: Section 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified on or before April 28, 2008); and Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008) when the particulate matter control methods and devices proposed are in operation.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the wet wash coal preparation plant with a thermal dryer will continue to be a major source. The facility is listed in 45CSR30 subsection 2.26.b as one of the categories of stationary sources which must include fugitive emissions 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 for PM₁₀, VOC, SO₂, NO_x and CO *are greater than* the 45CSR30 threshold of 100 TPY of a regulated air pollutant to be defined as a major stationary source. Therefore, the facility will continue to be subject to 45CSR30 and remain classified as a Title V major source.

Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

The proposed modification of Consolidation Coal Company's wet wash coal preparation plant with a thermal dryer 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 wet wash coal preparation plant with a thermal dryer is one of the 100 TPY stationary sources listed under the definition of "Major Stationary Source" in subsection 2.43.a. At the end of subsection 2.4.3, this facility is listed in Table 1 - Source Categories Which Must Include Fugitive Emissions. Therefore, fugitive emissions (from open storage piles and haulroads) are included when determining major stationary source applicability. The facility's potential to emit for PM, VOC, SO₂, NO_x and CO *are greater than* the 45CSR14 threshold of 100 TPY for a regulated air pollutant to be defined as a major stationary source.

In accordance with Section 2.75, the definition of "significant emission increase" is defined in Section 2.74 as equal to or greater than 25 TPY for PM, 15 TPY for PM₁₀ and 10 TPY for

PM_{2.5}. The proposed changes within this modification application will result in an increase in the potential to discharge of 1.20 TPY for PM, 0.56 TPY for PM₁₀ and 0.08 TPY for PM_{2.5}, which are less than the trigger levels for a significant increase as defined in 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the proposed increases in pollutants being emitted from this facility are in PM (particulate matter) and PM₁₀ (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the extent of the proposed modifications. This is a minor modification (as defined in 45CSR14) to an existing major source. This facility is located in Marion County, WV, which currently has a status of attainment for O₃ (ozone), PM₁₀ (particulate matter less than 10 microns in diameter), PM_{2.5} (particulate matter less than 2.5 microns in diameter), SO₂ (sulfur dioxide) and CO (carbon monoxide).

MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. An example form for tracking the weekly visible emission checks is included as Attachment A to Permit R13-0760E. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on-site for at least five (5) years and be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

The processing, storage areas and thermal dryer should be observed to make sure that the facility is meeting the visible emission standards of 45CSR5 and 40 CFR 60, Subpart Y. In accordance with 40 CFR 60.252(a), all emissions from thermal dryers constructed, re-constructed or modified on or before April 28, 2008 shall be less than 20% opacity. Visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified before on or April 28, 2008 shall not exceed 20 percent (20%) opacity as stated in 40 CFR 60.254(a). Visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008 shall not exceed 10 percent (10%) opacity as stated in 40 CFR 60.254(b).

The following monitoring shall be required on the thermal dryer operations:

- For the purposes of demonstrating compliance with maximum coal and methane usage limits set forth in 4.1.3(a) and 4.1.3(b), respectively, the permittee shall maintain monthly and rolling

twelve month records of the amount of coal and methane usage that is consumed by the furnace.

- For the purposes of demonstrating continuing compliance with the coal sulfur content under 4.1.3(c), the permittee shall daily obtain a composite sample of coal to be combusted in the thermal dryer furnace. This sample shall be tested according to the appropriate test methods as approved in a protocol submitted pursuant to 3.3.1.c to determine the sulfur content of the coal.
- The permittee shall install, evaluate, operate, and maintain instrumentation to measure the heat input into the furnace.
- Instruments will be installed for measuring the pH of the scrubber inlet water and effluent water and pH monitors will be installed in the operating room so that the dryer operator can maintain the necessary influent pH to attain the required minimum SO₂ removal efficiency.
- Consol will install flow straightening devices in the stack of the new Loveridge fluidized bed thermal dryer to insure that cyclonic flow does not occur.

CHANGES TO CURRENT PERMIT R13-0760D

- Add conveyor belt CB8A and Batch Weigh Loadout bin BWL along with associated transfer point TP019A

RECOMMENDATION TO DIRECTOR

The information contained in this modification application indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a permit to Consolidation Coal Company to modify their existing wet wash coal preparation plant with a thermal dryer located near Fairview, Marion County, WV, is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

January 28, 2015
Date