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**west virginia department of environmental protection**

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**ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Application No.: R13-0718E  
Plant ID No.: 061-00016  
Applicant: Consolidation Coal Company  
Facility Name: Blacksville No. 2 Preparation Plant  
Location: Wana, Monongalia 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  
Complete Date: December 4, 2014  
Applicant's Ad Date: September 17, 2014  
Newspaper: *The Dominion Post*  
UTM Coordinates: Easting: 560.47 km    Northing: 4395.78 km    Zone: 17  
Lat/Lon Coordinates: Latitude 39.709742    Longitude -80.294567    NAD83  
Description: Modification to add conveyor belt CB19A and batch weigh loadout bin BWL and their associated transfer points TP-19A and TP-19B which are rated for 3,500 TPH and 9,286,914 TPY.

**BACKGROUND**

Consolidation Coal Company proposes to modify their existing wet wash coal preparation plant with a thermal dryer located near Wana, Monongalia County, WV. Pending permit R13-0718E will supercede and replace current permit R13-0718D, which was approved on July 13, 2011.

## PROCESS DESCRIPTION

Raw Coal is brought to the surface via a skip hoist from the underground mine. This ROM (run-of-mine) material is immediately processed by screened S001B and crusher S001A before being conveyed across Conveyor CB1 (S003), where it is then transferred to Conveyor CB2 (S005) or diverted to the Run of Mine Bin (007A), where it is loaded to trucks for transport to the storage area. Conveyor CB2 transfers the ROM coal to the Run of Mine Silo 1 (S007), where it is stored and then loaded to Conveyor CB15 (S047). Conveyor CB15 conveys it to either Conveyor CB3 (S008), which conveys it to the preparation plant for wet washing or to Conveyor CB7 (S016). Conveyor CB7 transfers the raw coal onto Conveyor CB8 (S018), which transfer it onto Conveyor CB9 (S046) for direct shipment to the Rail Loadout Bin (S020).

Plant trucks can transport coal from either the Run of Mine Bin (S007A) or from the bypass at the Rail Loadout Bin (S020) to either Clean/Raw Coal Stockpile 1 (S029), Raw Coal Stockpile 1 (S039) or Raw Coal Stockpile 2 (S042) for storage. The stored coal is introduced back into the plant circuits by two reclaim feeders. The first feeder is located near Clean/Raw Stockpile 1 and transfers coal to Conveyor CB16 (S055), which conveys it to the preparation plant. The second feeder is located near ROM Silo 1 (S007) and transfers coal to Conveyor CB15 (S047). Conveyor CB15 conveys it to either Conveyor CB3 (S008), which conveys it to the preparation plant for wet washing or to Conveyor CB7 (S016). Conveyor CB7 transfers the raw coal onto Conveyor CB8 (S018), which transfer it onto Conveyor CB9 (S046) for direct shipment to the Rail Loadout Bin (S020).

Clean coal from the preparation plant is transferred by Conveyor CB11 (S033) to Conveyor CB13 (S036) and to the Thermal Dryer (S035). From the Thermal Dryer, dried coal is transferred by Conveyor CB14 (S038) to Conveyor CB12 (S034) and then back into the preparation plant, where it is transferred onto Conveyor CB6 (S013).

Clean coal from the preparation plant is either sent across Conveyor CB4 (S010) to Clean Coal Silo 1 (S012) or transferred on Conveyor CB6 (S013) to Clean Coal Silo 2 (S015). A sampling system uses a sweeper to pull coal from Conveyors CB4 and CB6 onto Conveyor CB19, which transfers it to crusher CR1. Crusher CR1 drops the coal to Conveyor CB20, which transfers it back to Conveyors CB4 and CB6. Clean coal is transferred from Clean Coal Silo 2 by Conveyor CB8 (S018) to Conveyor CB9 (S046), which feeds the Rail Loadout Bin (S020) where it is loaded to rail cars trucks. Clean coal is transferred from Clean Coal Silo 1 by Conveyor CB5 and then either goes to Conveyor CB9 or the new truck loadout system consisting of Conveyor CB18 , Conveyor CB18A and truck loadout bin TLB.

Refuse exits the preparation plant on Conveyor CB10 (S022) and is conveyed to Refuse Loadout Bin 1 (S024), where it is either loaded into trucks/pans or drops onto Conveyor CB17 (S056). Conveyor CB17 conveys the refuse to Refuse Loadout Bin 2 (S058), where it is loaded into trucks/pans.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit applications R13-0718E, R13-0718D, R13-0718C, R13-0718B, R13-0718A and R13-0718 and any amendments thereto:

Source ID	Emission Point ID	Equipment Description	Maximum Design Capacity		Date of Construction, Reconstruction or Modification <sup>1</sup>	Fugitive Control System/Device <sup>2</sup>	Control Device ID	Associated Emission Points		
			TPH	TPY x 10 <sup>6</sup>				ID No.	Transfer Description	Fugitive Control System/Device <sup>2</sup>
<b>RAW COAL CIRCUIT</b>										
001B	Z01	<b>Screen 1</b> – Screening of run of mine raw coal at mine's skip shaft	1,800	10.0	M 2006 C 2000	FE	NA	001	Raw coal from mine to Screen/Crusher Unit	FE
								002	Screened/crushed coal to Conveyor CB1	FE
001A	Z01	<b>Crusher 1</b> – Crushing of run of mine raw coal at mine's skip shaft	1,800	10.0	M 2006 C 2000	FE	NA	001	Raw coal from mine to Screen/Crusher Unit	FE
								002	Screened/crushed coal to Conveyor CB1	FE
003	Z01	<b>Conveyor CB1</b> - Belt from Screen/Crusher Building to Conveyor CB2 in Raw Coal (RC) Transfer Building	1,800	10.0	M 2006 C 2000	PE	NA	004	Raw coal (RC) from Conveyor CB1 to Conveyor CB2 or Run of Mine Bin	FE
007A		<b>Run of Mine Bin</b> - receives raw coal from Conveyor CB1 and loads it to truck/pan - 300 ton capacity	1,800	10.0	M 2006	FE	NA	027	Raw Coal (RC) from Run of Mine Bin to truck/pan for transport to stockpiles	N
005	Z01	<b>Conveyor CB2</b> - Belt from RC Transfer Building to Run of Mine Silo 1	1,800	10.0	M 2006 C 2000	PE	NA	006	RC from Conveyor CB2 to Run of Mine Silo 1 load-in	FE
007	Z01	<b>Run of Mine Silo 1</b> - (Capacity 6,000 tons)	1,800 in 1,500 out	10.0	M 2006 C 1970	FE	NA	007A	Run of Mine Silo 1 reclaim to Conveyor CB15	PE
047	Z01	<b>Conveyor CB15</b> - Belt from pan/truck dump reclaim feeder and Run of Mine Silo 1 to Conveyor CB3 (plant feed) or Conveyor CB7	1,500	1.24	2000	PE	NA	031	Stockpile reclaim to Conveyor CB15	N
								047A	Transfer from Conveyor CB15 to Conveyor CB3 or Conveyor CB7	FE
008	Z01	<b>Conveyor CB3</b> - Belt from Conveyor CB15 to Preparation Plant	1,500	10.0	2000	PE	NA	008A	RC from Conveyor CB3 to Preparation Plant	FE
016	Z01	<b>Conveyor CB7</b> - Belt from Conveyor CB15 to Conveyor CB8 (see Clean Coal Circuit)	1,500	6.0	1970	PE	NA	016A	RC from Conveyor CB7 to Conveyor CB8	PE
055	Z01	<b>Conveyor CB16</b> - Belt from Clean/Raw Coal Stockpile 1 reclaim feeder to Preparation Plant	1,500	1.3	1996	PE	NA	055A	Clean/Raw Coal Stockpile reclaim feeder to Conveyor CB16	N
<b>STOCKPILES</b>										
029	Z01	<b>Clean/Raw Coal Stockpile 1</b> - Stockpile footprint is 13 acres with a storage capacity of approximately 900,000 tons.	NA	2.0	2000	MC	NA	028	CC/RC Stockpile 1 coal loadin from pan	MC
								030	CC/RC Stockpile 1 coal loadout to pan	MC
039	Z01	<b>Raw Coal Stockpile 1</b> - Stockpile footprint is 9.9 acres with a storage capacity of approximately 480,000 tons.	NA	1.0	1990	MC	NA	040	RC Stockpile 1 coal loadin from pan	MC
								041	RC Stockpile 1 coal loadout to pan	MC
								041A	Grading RC Stockpile 1	MC
042	Z01	<b>Raw Coal Stockpile 2</b> - Stockpile footprint is 3.3 acres with a storage capacity of approximately 90,000 tons.	NA	0.2	1990	MC	NA	043	RC Stockpile 2 coal loadin from pan	MC
								044	RC Stockpile 2 coal loadout to pan	MC
								044A	Grading RC Stockpile 2	MC
<b>THERMAL DRYER CIRCUIT</b>										
033	Z01	<b>Conveyor CB11</b> - Belt from Preparation Plant to Conveyor CB13 in Thermal Dryer Transfer Building	650	4.2	2000	PE	NA	035A	Wet coal from Conveyor CB11 to Conveyor CB13 (feed to thermal dryer)	FE

Source ID	Emission Point ID	Equipment Description	Maximum Design Capacity		Date of Construction, Reconstruction or Modification <sup>1</sup>	Fugitive Control System/ Device <sup>2</sup>	Control Device ID	Associated Emission Points		
			TPH	TPY x 10 <sup>6</sup>				ID No.	Transfer Description	Fugitive Control System/ Device <sup>2</sup>
								035B	Wet coal from Conveyor CB11 to Conveyor CB12 (by-pass of thermal dryer)	FE
036	Z01	<b>Conveyor CB13</b> - Belt from Conveyor CB11 in Thermal Dryer Transfer Building to Thermal Dryer	650	4.2	1984	PE	NA	036A	Wet coal from Conveyor CB13 to Thermal Dryer	FE
037C	P002	<b>Thermal Dryer</b> Manufacture: Heyl-Patterson Type: Fluidized Bed Dryer Furnace Manufacturer: Bigelow - Liptak with a single forced draft burner. Design BTU Rating: 115 x 10 <sup>6</sup> Btu/hr. Max operation of 5,850 hours/year	650	4.2	1984	Cyclones (4 parallel cyclone collectors)	Cyclones	035C	Dried Coal from Thermal Dryer to Conveyor CB14	FE
						Scrubber (Horizontal Venturi Scrubber)	Scrubber			
038	Z01	<b>Conveyor CB14</b> - Belt from Thermal Dryer to Conveyor CB12 in Thermal Dryer Transfer Building	650	4.2	1984	PE	NA	035D	Dried coal from Conveyor CB14 to Conveyor CB12	FE
034	Z01	<b>Conveyor CB12</b> - Belt from Conveyor CB14 in Thermal Dryer Transfer Building to Preparation Plant	650	4.2	2000	PE	NA	034A	Conveyor CB12 to Conveyor CB6 within the Preparation Plant	PE
<b>CLEAN COAL CIRCUIT</b>										
010	Z01	<b>Conveyor CB4</b> - Belt from Preparation Plant to Clean Coal (CC) Silo 1 or Sample Conveyor CB19	1,500	4.18	2000	PE	NA	011	CC from Conveyor CB4 to Clean Coal Silo 1	FE
								STP1	CC from Conveyor CB4 to Conveyor CB19	PE
013	Z01	<b>Conveyor CB6</b> - Belt from Preparation Plant to Clean Coal (CC) Silo 2 or Sample Conveyor CB19	1,500	3.42	2000	PE	NA	014	CC from Conveyor CB6 to Clean Coal Silo 2	FE
								STP2	CC from Conveyor CB6 to Sample Conveyor CB19	PE
CB19	CB19	<b>Sample Conveyor CB19</b> - Sample Belt from Conveyor CB4 and CB6 (see below) to Sample Crusher CR1	5	0.0438	C 1989	PE	NA	STP3	CC from Sample Conveyor CB19 to Sample Crusher CR1	PE
CR1	CR1	<b>Sample Crusher CR1</b> - crushes CC from Sample Conveyor CB19	5	0.0438	C 1989	FE	NA	STP4	CC from Sample Crusher CR1 to Sample Conveyor CB20	FE
CB20	CB20	<b>Sample Conveyor CB20</b> - Sample Belt from Sample Crusher CR1 back to Conveyors CB4 or CB6	5	0.0438	C 1989	PE	NA	STP5	CC from Sample Conveyor CB20 back to Conveyor CB6	PE
								STP6	CC from Sample Conveyor CB20 back to Conveyor CB4	PE
012	Z01	<b>Clean Coal Silo 1</b> - (Capacity 14,000 t)	1,500	4.18	1970	FE	NA	012B	CC from CC silo 1 to Conveyor CB5	PE
012A	Z01	<b>Conveyor CB5</b> - CC Silo 1 reclaim conveyor	3,000	4.18	1970	FE	NA	017A	CC from Conveyor CB5 to Conveyor CB9 (see below) or Conveyor CB18	PE
CB18	CB18	<b>Conveyor CB18</b> - CC truck loadout conveyor	1,000	1.0	C 2011	PE	NA	TLTP1	CC from Conveyor CB18 to Conveyor CB18A	PE
CB18A	CB18A	<b>Conveyor CB18A</b> - CC truck loadout conveyor	1,000	1.0	C 2011	PE	NA	TLTP2	CC from Conveyor CB18A to Truck Loadout Bin TLB	PE
TLB	TLB	<b>Truck Loadout Bin TLB #2</b> - 100 ton capacity	1,000	1.0	C 2011	FE	NA	TLTP3	CC from Truck Loadout Bin TLB #2 to trucks	MD
015	Z01	<b>Clean Coal Silo 2</b> - (Capacity 12,000 t)	1,500	3.42	1970	FE	NA	015A	CC from CC silo 2 to Conveyor CB8	FE
018	Z01	<b>Conveyor CB8</b> - CC Silo 2 reclaim conveyor	3,000	3.42	1970	FE	NA	017B	CC from Conveyor CB8 and direct ship from Conveyor CB7 (see Raw Coal Circuit) to Conveyor 9	PE

Source ID	Emission Point ID	Equipment Description	Maximum Design Capacity		Date of Construction, Reconstruction or Modification <sup>1</sup>	Fugitive Control System/ Device <sup>2</sup>	Control Device ID	Associated Emission Points		
			TPH	TPY x 10 <sup>6</sup>				ID No.	Transfer Description	Fugitive Control System/ Device <sup>2</sup>
046	Z01	Conveyor CB9 - Rail Loadout Feed Belt - from Conveyors CB5 and CB8 to Truck Loadout Bin TLB #1 or Conveyor CB19A	3,000	7.6	1970	PE	NA	019	CC from Conveyor CB9 to Truck Loadout Bin TLB #1	FE
								019A	CC from Conveyor CB9 to CB19A	FE
020	Z01	Truck Loadout Bin TLB #1 (Capacity - 100 tons)	3,000	7.6	1970	FE	NA	045	Truck Loadout Bin TLB #1 to Trucks/Pan	PE
CB19A	Z01	Conveyor CB19A - Batch Weigh Loadout Conveyor	3,500	9.3	C 2014	PE	NA	019B	CC from Conveyor CB19A to Batch Weigh Loadout BWL	FE
BWL	Z01	Batch Weigh Loadout BWL - (Capacity - 220 tons)	3,500	9.3	C 2014	FE	NA	021	Batch Weigh Loadout BWL to Railcars	PE
<b>REFUSE CIRCUIT</b>										
022	Z01	Conveyor CB10 - Belt from Preparation Plant to Refuse Loadout Bin1	650	5.694	M 2011 C 2000	PE	NA	023	Refuse from Conveyor CB10 to Refuse Loadout Bin 1	PE
024	Z01	Refuse Loadout Bin 1 - (Capacity - 100 tons)	650	5.694	M 2011 C 1970	FE	NA	025	Refuse from Refuse Loadout Bin 1 to Refuse Vehicle	MC
								025A	Refuse from Refuse Loadout Bin 1 to Conveyor CB17	PE
056	Z01	Conveyor CB17 - Belt from Refuse Loadout Bin 1 to Refuse Loadout Bin2	650	5.694	2004	PE	NA	057	Refuse from Conveyor CB17 to Refuse Loadout Bin 2	PE
058	Z01	Refuse Loadout Bin 2 - (Capacity - 100 tons)	650	5.694	2004	FE	NA	059	Refuse from Refuse Loadout Bin 2 to Refuse Vehicle	MC
<b>HAULROADS</b>										
052A	Z01	Haulroads - Unpaved Roads - refuse vehicle to disposal area full.	NA	NA	2000	WT	NA	026	Transfer of coarse refuse from haul vehicle to disposal area	MC
								032A	Grading of Refuse Disposal Area	MC
052B	Z01	Haulroads - Unpaved Roads - refuse vehicle from disposal area empty.	NA	NA	2000	WT	NA			
052C	Z01	Haulroads - Unpaved Roads - Clean Coal to/from CC/RC Stockpile 1/ empty	NA	NA	2000	WT	NA			
052D	Z01	Haulroads - Unpaved Roads - Clean Coal to/from CC/RC Stockpile 1/ full	NA	NA	2000	WT	NA	028	CC/RC Stockpile 1 coal loadin from pan	MC
								030	CC/RC Stockpile 1 coal loadout to pan	MC
052	Z01	Haulroads - Unpaved Roads - Raw Coal to/from Raw Coal Stockpile #1 / empty	NA	NA	1990	WT	NA			
052F	Z01	Haulroads - Unpaved Roads - Raw Coal to/from Raw Coal Stockpile #1 / full	NA	NA	1990	WT	NA	040	RC Stockpile 1 coal loadin from pan	MC
								41	RC Stockpile 1 coal loadout to pan	MC
052G	Z01	Haulroads - Unpaved Roads - Raw Coal to/from Raw Coal Stockpile #2/ empty	NA	NA	1990	WT	NA			
052H	Z01	Haulroads - Unpaved Roads - Raw Coal to/from Raw Coal Stockpile #2/ full	NA	NA	1990	WT	NA	043	RC Stockpile 2 coal loadin from pan	MC
								044	RC Stockpile 2 coal loadout to pan	MC
052I	Z01	Haulroads - Unpaved Roads - Empty trucks to truck loadout	NA	NA	1970	WT	NA			
052J	Z01	Haulroads - Unpaved Roads - Full trucks from truck loadout	NA	NA	1970	WT	NA	045	Truck Loadout Bin TLB #1 to Trucks/Pan	PE
052K	Z01	Haulroads - Unpaved Roads - Clean Coal to/from CC/RC Stockpile #1 / full	NA	NA	2000	WT	NA	28	CC/RC Stockpile 1 coal loading from pan	MC
								30	CC/RC Stockpile 1 coal loadout to pan	MC

Source ID	Emission Point ID	Equipment Description	Maximum Design Capacity		Date of Construction, Reconstruction or Modification <sup>1</sup>	Fugitive Control System/Device <sup>2</sup>	Control Device ID	Associated Emission Points		
			TPH	TPY x 10 <sup>6</sup>				ID No.	Transfer Description	Fugitive Control System/Device <sup>2</sup>
052L	Z01	Haulroads - Unpaved Roads - Clean Coal to/from CC/RC Stockpile #1 / empty	NA	NA	2000	WT	NA			
054D	Z01	Haulroads - Unpaved Roads - Full ash truck to ash disposal area	NA	0.15	To be Built	WT	NA	026	Transfer of ash from ash truck to ash disposal area.	MC
054E	Z01	Haulroads - Unpaved Roads - Empty ash trucks from ash disposal area	NA	0.15	To be Built	WT	NA			
		Haulroads - Unpaved Roads - Trucks transporting coal from Truck Loadout Bin TLB	1,000	1.0	C 2011	WT	NA	TLTP3	Transfer of clean coal to trucks for shipment off-site	MD
<b>MISCELLANEOUS</b>										
048	Z01	Lime Storage Silo 1	NA	NA	1970	NA	NA			
050	Z01	Rock Dust Silo 1	NA	NA	1970	NA	NA			
054B	P003	Ash Disposal - Ash Storage Silo	NA	0.15	To be Built	Baghouse	Baghouse 1	054C	Ash transfer to haul truck	MC
								054D,E	Ash truck to/from disposal site	WT
054A	P003	Ash Disposal - Railcar Depressurization	NA	0.15	To be Built	Baghouse	Baghouse 1			
009B	Z01	VOC emissions from prep plant Froth Flotation Cell	NA	NA	2000	NA	NA			
009	P001	VOC emissions from prep plant Vacuum Filter	NA	NA	2000	NA	NA			
049	Z01	VOC emissions from water treatment Thickener	NA	NA	2000	NA	NA			
020	Z01	VOC emissions from rail cars anti-freeze spray	NA	NA	1970	NA	NA			
053A-M	Z01	VOC working/breathing losses from liquid chemical and petroleum storage tanks	NA	NA	1970	NA	NA			
2S		Storage Silo			To be Built					
3S		Pugmill			To be Built					
4e		Storage Silo baghouse			To be Built					

<sup>1</sup> 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.

<sup>2</sup> 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 September 24, 2013, Brian Tephabock of the DAQ's North Central Regional Office performed a full on-site targeted inspection. Mr. Tephabock's contact at the facility that day was Edward Moore. The facility was found to be in compliance at the time of the inspection and given a status code of 30 - In Compliance.

On March 15, 2014, Rebecca Johnson of the DAQ's Compliance and Enforcement Section received the 2013 Title V Annual Certification. Mrs. Johnson reviewed the Certification documentation and facility was found to be in compliance and given a status code of 30 - In Compliance.

On July 2, 2014, Brian Tephabock of the DAQ's North Central Regional Office received the 2013 Title V Annual Report. Mr. Tephabock reviewed the Certification documentation and made the following noted: "Received 03-19-2013. Minor deviation reported, corrective action had initiated." The facility was given a status code of MC.

Directions from Charleston are to take I-79 North, take Exit 125 for Shinnston, turn left onto State Route 131 West and travel to Shinnston, turn right onto U.S. Route 19 North, turn left onto County Route 3 and travel 2.8 miles, turn left onto County Road 3-4 and travel 1.2 miles to the preparation plant.

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.

According to the Engineering Evaluation/Fact Sheet R13-0718D, the existing facility has the following estimated potential to discharge controlled emissions:

- Existing Facility-wide Emissions - Consolidation Coal Company R13-0718D	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	5.22	22.86	2.61	11.43
Unpaved Haulroad Emissions	442.37	1,492.85	122.44	405.01
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<b>Fugitive Emissions Total</b>	<i>447.59</i>	<i>1,515.71</i>	<i>125.05</i>	<i>416.44</i>
<b>Point Source Emissions</b>				
Crushing Emissions <sup>2</sup>	0.19	0.61	0.10	0.31
Screening Emissions <sup>2</sup>	0.13	0.35	0.07	0.18
Transfer Point Emissions	26.40	47.24	12.49	22.34
Baghouse 1 <sup>3</sup>	1.72	7.53	1.72	7.53
Thermal Dryer (filterable and condensable)	24.2	70.79	19.66	57.50
<b>Point Source Emissions Total (PTE)</b>	<i>52.63</i>	<i>126.52</i>	<i>34.04</i>	<i>87.85</i>
<b>FACILITY EMISSIONS TOTAL</b>				
	<i>500.22</i>	<i>1,642.23</i>	<i>159.09</i>	<i>504.30</i>

- <sup>1</sup> These emission rates were not provided in application R13-0718D so the writer calculated the ratio of PM to PM10 for the TPY values and applied the same to the lb/hour values.
- <sup>2</sup> The emission factor for the raw coal crusher and screen located at the Skip Hoist is based on a source specific test performed on these units at the Blacksville No. 2 Preparation Plant during January 2000. The measurements taken during the test were made inside of the building housing the crusher and screen and only took into account the effectiveness of the coverings on the actual emissions units. An additional full enclosure control efficiency of 80% was applied in order to account for the building structure in which the units are located.
- <sup>3</sup> Stack 3 for the Ash Storage Silo and Railcar Depressurization.
- <sup>4</sup> From the 2001 Title V application
- <sup>5</sup> Assumes that PM = PM<sub>10</sub>.

The proposed modifications will result in an increase in the potential to discharge controlled emissions from point sources of 1.36 pounds per hour and 1.81 TPY of particulate matter (PM), of which 0.64 pounds per hour and 0.86 TPY will be particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and 0.1 pounds per hour and 0.1 TPY will be particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). 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 <sub>10</sub> Emissions		Controlled PM <sub>2.5</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>						
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>
<b>Point Source Emissions</b>						
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	1.36	1.81	0.64	0.86	0.1	0.1
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>1.36</i>	<i>1.81</i>	<i>0.64</i>	<i>0.86</i>	<i>0.1</i>	<i>0.1</i>
<b>INCREASE IN EMISSIONS TOTAL</b>						
	<b>1.36</b>	<b>1.81</b>	<b>0.64</b>	<b>0.86</b>	<b>0.1</b>	<b>0.1</b>

The proposed modification will result in the following new estimated facility-wide potential to discharge controlled emissions:

- New Facility-wide Emissions Summary - Consolidation Coal Company R13-0718D	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	5.22	22.86	2.61	11.43
Unpaved Haulroad Emissions	442.37	1,492.85	122.44	405.01
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<b>Fugitive Emissions Total</b>	<i>447.59</i>	<i>1,515.71</i>	<i>125.05</i>	<i>416.44</i>
<b>Point Source Emissions</b>				
Crushing Emissions	0.19	0.61	0.10	0.31
Screening Emissions	0.13	0.35	0.07	0.18
Transfer Point Emissions	27.76	49.05	13.13	23.20
Baghouse 1	1.72	7.53	1.72	7.53
Thermal Dryer (filterable and condensible)	24.20	70.79	19.66	57.50
<b>Point Source Emissions Total (PTE)</b>	<i>53.99</i>	<i>128.33</i>	<i>34.68</i>	<i>88.71</i>
<b>FACILITY EMISSIONS TOTAL</b>				
	<i>501.58</i>	<i>1,644.04</i>	<i>159.73</i>	<i>505.16</i>

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

Pollutant	Emissions Limitations	
	Hourly (lbs/hour)	Annual (tons/year)
<b>Volatile Organic Compounds (VOCs)</b> <sup>1</sup>	24.6	47.40
<b>Particulate Matter (PM)</b> <sup>1</sup>	24.2	70.79
<b>Sulfur Dioxide (SO<sub>2</sub>)</b> <sup>2</sup>	120.7	249.40
<b>Oxides of Nitrogen (NO<sub>x</sub>)</b> <sup>1</sup>	46.6	136.31
<b>Carbon Monoxide (CO)</b> <sup>1</sup>	43.2	103.00

<sup>1</sup> Emission rates were determined from stack testing conducted by Consol Inc.'s Research & Development Department on Dec. 9-10-14, 2003 for VOC, PM, NO<sub>x</sub>, CO.

<sup>2</sup> Emission rates for SO<sub>2</sub> are from CEM data.

Refer to the following table for a complete summary of the facility's unchanged potential to discharge non-methane VOCs from the Froth Flotation Cell, Water Circuit Flocculants, Storage Tank Working Breathing Losses and Coal Freeze-Treating:

Emission Source		Annual Reagent Usage (gallons)		VOC Volatility (%)	Amount of VOC Retained by Solids (%)	Reagent Density <sup>4</sup> (lbs/gal)	Total Plant Feed Raw Coal (TPY)		nmVOC Emissions (TPY)	
Flow Diagram ID No.	Description	2005 Actual	PTE <sup>5</sup>				2005	PTE	Un-controlled	Controlled
053A-M	Storage Tanks - working/breathing losses <sup>3</sup>	see Note 3 below							0.5	0.5
009A	Froth Cell - frother reagent <sup>1,2</sup>	8,500	11,331	12 %	10 %	7.7	7,228,796	9,636,000	4.7	4.7
009A	Froth Cell - diesel fuel reagent <sup>1,2</sup>	42,500	56,653	9 %	10 %	7.3	7,228,796	9,636,000	16.8	16.8
049	Flocculant - anionic	32,523	43,353	45 %	95 %	8.8	7,228,796	9,636,000	4.3	4.3
049	Haulroad Dust Control	0		42 %	0 %	8.5	-		0.0	0.0
020	Freeze Treat- diethylene glycol	144,407	499,344	50 %	95 %	8.9	7,600,000	26,280,000	55.6	55.6
<b>TOTAL</b>									<b>81.85</b>	<b>81.85</b>

- <sup>1</sup> Fine coal froth floatation VOC emission calculations assume 90% of the volatile VOC content of the froth and diesel fuel reagents are released into the atmosphere. The remaining VOC is bound to the coal. Potential release locations include: the vacuum filtration exhaust vents, the plant roof vents, and the water treatment thickener. These values yield actual emissions consistent with measurements made on a Pennsylvania coal preparation plant which indicated that approximately 5% of the total frother and diesel fuel usage in pounds were emitted.
- <sup>2</sup> Frother and diesel fuel VOC content is estimated using a modified Reference Method 24A; others are based on material safety data sheets.
- <sup>3</sup> Storage tank losses of 0.5 TPY are restated from the 1994 Emissions Inventory which is viewed as a conservative estimation.
- <sup>4</sup> Reagent densities are taken from the manufacturer's material safety data sheet.
- <sup>5</sup> PTE numbers are prorated based on the 2005 actual values compared to original maximum plant throughput.

## 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.

*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, which are defined as affected facilities in 40 CFR 60 Subpart Y. The proposed modification will result in a increase in the potential to discharge controlled emissions of a regulated air pollutant (PM, PM<sub>10</sub> and PM<sub>2.5</sub>) 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*

The 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, 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 will be 505.16 TPY for PM<sub>10</sub>, 129.25 TPY for VOC, 249.40 TPY for SO<sub>2</sub>, 136.31 TPY for NO<sub>x</sub> and 103.00 TPY for CO, which 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 sources 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 will 1644.04 TPY for PM, 505.16 TPY for PM<sub>10</sub>, 129.25 TPY for VOC, 249.40 TPY for SO<sub>2</sub>, 136.31 TPY for NO<sub>x</sub> and 103.00 TPY for CO. The facility's potential to emit for PM, VOC, SO<sub>2</sub>, NO<sub>x</sub> 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 PM<sub>10</sub> and 10 TPY for PM<sub>2.5</sub>. The proposed changes within this modification application will result in an increase in the potential to discharge of 1.81 TPY for PM, 0.86 TPY for PM<sub>10</sub> and 0.1 TPY for PM<sub>2.5</sub>, 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 PM<sub>10</sub> (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

## AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the extent of the proposed modifications. This is a minor modification (as defined in 45CSR14) to an existing major source. This facility is located in Monongalia County, WV, which currently has a status of attainment for O<sub>3</sub> (ozone), PM<sub>10</sub> (particulate matter less than 10 microns in diameter), PM<sub>2.5</sub> (particulate matter less than 2.5 microns in diameter), SO<sub>2</sub> (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 thermal dryer emissions is included as Attachment A to Permit R13-0718E. An example form for tracking the throughput of raw coal on conveyors CB3 and CB16 combined into the preparation plant is included as Attachment B to Permit R13-0718E. An example form for tracking the amount of water applied by the water truck is included as Attachment C to Permit R13-0718E. An example form for tracking the weekly visible emission checks is included as Attachment D to Permit R13-0718E. 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).

#### CHANGES TO CURRENT PERMIT R13-0718D

- Add conveyor belt CB19A and Batch Weigh Loadout bin BWL along with associated transfer points TP019A and TP019B

#### 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 Wana, Monongalia County, WV, is hereby recommended.

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Daniel P. Roberts, Engineer Trainee  
NSR Permitting Section

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December 5, 2014  
Date

Fact Sheet R13-0718E  
Consolidation Coal Company  
Blacksville No. 2 Preparation Plant