



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-1286D
Plant ID No.: 039-00078
Applicant: Winifrede Dock LLC
Facility Name: Chesapeake #34
Location: Chesapeake, Kanawha County
SIC Code: 1221
Application Type: Modification
Received Date: October 19, 2011
Engineer Assigned: Steven R. Pursley, PE
Fee Amount: \$1,000.00
Date Received: October 21, 2011
Complete Date: November 17, 2011
Due Date: February 15, 2012
Applicant Ad Date: November 10, 2011
Newspaper: *Charleston Gazette*
UTM's: Easting: 454.346 km Northing: 4,229.059 km Zone: 17
Description: Application to remove synfuel provisions from the permit, revise coal tonnages and update existing equipment.

DESCRIPTION OF PROCESS

Coal can be trucked onto the site and either unloaded into stockpiles or loaded directly into Bin 1. Bin 1 can also be loaded by front endloader. From Bin 1, the coal is then transferred onto Belt Conveyor 1. Coal travels along BC-1 to the processing building. Inside the building, which is fully enclosed, coal can be processed through crushers and screened. Coal exits the building on Belt Conveyor 2.

Coal may also be placed by front end loader into Bin 2 which places coal onto BC-2 to enter the plant as well.

Coal from the plant belt conveyor BC-2 travels to belt conveyor BC-3. Coal received by train is transferred from the railcar shake-out to Bin 3 and onto BC-3. In addition, coal

is also loaded out to the railcar facility. BC-3 transports coal from the plant and shake-out to belt conveyor BC-4 and then to Barge 1 or belt conveyor BC-5. Coal from Belt BC-5 is transferred to Barge 2.

Coal may also be loaded out by truck from the open stockpiles. The coal loaded out by truck comes directly from the open stockpiles and is not processed (crushed or screened).

Description of Modification

The application was submitted to 1) remove the transport of synfuel at the facility, 2) decrease incoming tonnage to a total of 5,000,000 tons per year, 3) decrease the total shipped tonnage while revising the amounts shipped by barge, truck and rail, 4) update existing equipment (removal of equipment only).

I. Synfuel Removal

The permittee does not transport synfuel through its facility and does not intend to do so in the future. Therefore, the inclusion of synfuel as a product of this facility is not required and it was requested to be removed from the permit.

II. Received Tonnage Revision

The permit is being revised to change the tonnages being received by truck and train. The total maximum amount of coal received at the facility will decrease to 5,000,000 tons per year. The coal being received by truck will decrease from 3,000,000 TPY to 2,500,000 TPY. The total number of TPY being received by train will decrease from 5,000,000 TPY to 2,500,000 TPY.

III. Shipped Tonnage Revision

The permit is being revised to change the tonnages being shipped by barge, truck and train. Since the total maximum annual throughput of coal received has decreased, the total amount shipped out will decrease. The coal being shipped out by barge will decrease from 5,000,000 tons per year to 3,750,000 tons per year. The coal being shipped out by rail will decrease from 2,000,000 tons per year to 1,000,000 tons per year. The coal being shipped out by truck will increase from 5,000 tons per year to 250,000 tons per year.

IV. Equipment Update

The permit is being updated to remove equipment which was never constructed or were previously removed due to operational issues. The Roto-Cyclone is also being removed from the application as a control device at the rail shakeout and has been

replaced with 16 water sprays. No belt structure, bins etc. are being added to the facility under this application.

SITE INSPECTION

A full, onsite inspection of the facility was performed by Andy Grimm of DAQs enforcement division on August 2, 2011. The facility was determined to be in compliance.

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 factor for crushing/breaking operations was obtained from the National Emissions Data System. The estimated emission calculations were performed by the applicant's consultant and were checked for accuracy and completeness by the writer.

The existing facility as currently permitted has an estimated potential to discharge controlled emissions of 71.64 pounds per hour and 93.68 TPY of particulate matter, of which 33.61 pounds per hour and 43.89 TPY are less than ten (10) microns in diameter (see engineering evaluation R13-1286B). The modified facility will have an estimated potential to emit controlled emissions of 150.81 pounds per hour and 404.24 TPY of particulate matter, of which 45.33 pounds per hour and 82.56 TPY are less than ten (10) microns in diameter (see following table). Therefore the total increase in PTE PM due to this modification is 79.17 pounds per hour and 310.56 TPY. Similarly, the total increase in PTE PM₁₀ due to this modification is 11.72 pounds per hour and 38.67 TPY

Emissions Summary	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.05	0.23	0.03	0.11
Unpaved Haulroad Emissions	0.80	2.28	0.23	0.66
Paved Haulroad Emissions	92.44	389.28	18.03	75.94
Fugitive Emissions Total	<i>93.29</i>	<i>391.79</i>	<i>18.29</i>	<i>76.71</i>
Point Source Emissions				
Equipment Emissions	54.40	10.80	25.57	5.08
Transfer Point Emissions	3.11	1.65	1.47	0.78
Point Source Emissions Total (PTE)	<i>57.51</i>	<i>12.45</i>	<i>27.04</i>	<i>5.86</i>
FACILITY EMISSIONS TOTAL				
	150.80	404.24	45.33	82.57

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Winifrede Dock, LLC
Chesapeake #34

REGULATORY APPLICABILITY

The proposed modification of Winifrede Dock's coal handling and barge loadout facility is 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 facility is subject to the requirements of 45CSR5 because it meets the definition of "Coal Preparation Plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity) and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed within Permit Application R13-1286B and R13-1286D (partial or full enclosures on conveyors and transfer points; full enclosures on the screens and crushers; water truck for plant area and haulroads; stacking tubes and rainbird spray on stockpiles OS-4, OS-5 and OS-6) are in operation.

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

The proposed modification is subject to the requirements of 45CSR13 because it will create an increase in the potential to discharge of more than six (6) pounds per hour and ten (10) tons per year of a regulated air pollutant (Particulate Matter and PM₁₀.)

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

The existing facility is subject to Subpart Y. However, the modifications do not add any affected sources nor increase throughput through any affected sources. However, the permit does change the naming and load in methods of open stockpiles OS-1 (Old OS-4, OS-5, and OS-6), OS2, and OS-3 (Old OS-7). Therefore the stockpiles will be subject to the Fugitive Coal Dust Emissions Control Plan requirements of Subpart Y.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, this coal handling and barge loadout facility will be a non-major source which is subject to NSPS Subpart Y. The facility's potential to emit will be 12.45 TPY of PM₁₀, not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will continue to be subject to 45CSR30 and classified as a Title V deferred non-major source.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Only particulate matter emissions are effected by this permitting action.

AIR QUALITY IMPACT ANALYSIS

Since this is a minor modification to a minor stationary source no modeling was performed.

MONITORING OF OPERATIONS

The permittee shall keep and maintain monthly records of the amount of coal received and shipped by truck, barge, and rail.

CHANGES TO PERMIT R13-1286B (R13-1286C was previously withdrawn)

Since the permit was in the old (non title V style) boilerplate this is practically a completely new permit.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-1286D for the modification of a coal handling facility near Chesapeake, Kanawha County, be granted to Winifrede Dock, LLC.

Steven R. Pursley, PE
Permit Writer

February 2, 2012

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