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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3273A		
Plant ID No.:	045-00151		
Applicant:	Holy Smoke Coal, LLC		
Facility Name:	Fanco Plant Operation		
Location:	Amherstdale, Logan County		
SIC Code:	1221 (Bituminous Coal & Lignite - Surface)		
NAICS Code:	212111 (Bituminous Coal and Lignite Surface Mining)		
Application Type:	Construction		
Received Date:	December 1, 2015		
Engineer Assigned:	Dan Roberts		
Fee Amount:	$2,000		
Date Received:	$1,000 on September 25, 2015 with withdrawn application R13-3273 $1,000 on December 4, 2015		
Complete Date:	April 15, 2016		
Applicant Ad Date:	November 12, 2015		
Newspaper:	*Logan Banner*		
UTM Coordinates:	Easting: 426.682 km	Northing: 4182.537 km	NAD83 Zone 17N
Lat/Lon Coordinates:	Latitude: 37.787251	Longitude: -81.832675	NAD83
Description:	Construction of coal screening facility which will consist of a Fintec 570 Power Screen powered by a Caterpillar XQ400-6 diesel engine, a Tomra X-Ray Sorting System, six associated belt conveyors and five open storage piles.		

BACKGROUND

Permit application R13-3273 was received on September 24, 2015 for the construction of the proposed facility. However, permit application R13-3273 was withdrawn on December 4, 2015 in order to be revised and modified by the applicant.

The Tomra X-Ray Sorting System (XSS) will sort the raw coal on an ash basis and ejects the refuse via micro air blasts. Under 40 CFR 60 Subpart Y, pneumatical coal-cleaning equipment is defined for units constructed, reconstructed, or modified after May 27, 2009, as any facility which classifies coal by size or separates coal from refuse by application of air stream(s). Therefore, the

Tomra XSS is considered a piece of pneumatical coal cleaning equipment and is not eligible for a General Permit G10-D registration. According to the company, an electric air compressor will be used to supply pressurized air need for the Tomra XSS to separate the refuse from the coal.

This screening facility will be used to reprocess an existing refuse disposal area at Apogee Coal Company's Fanco Preparation Plant (045-00050, G10-D106B). At some point in time, cannel coal was inadvertently trucked and dumped into this refuse disposal area. The refuse disposal area contains approximately 80,000 tons of material and should be screened in approximately 6 months from the time of start-up. The cannel coal will be transferred by endloader to the Fanco Prep Plant, where it will be transferred by conveyor to a railcar loadout and then transported to a barge loadout and then shipped overseas. After completion, the screening operation will be moved to a new location.

DESCRIPTION OF PROCESS

Holy Smoke Coal, LLC proposes to construct a screening operation called their Fanco Plant Screen Operation to be located at the Apogee Coal Company's Fanco Preparation Plant (045-00050, G10-D106B) near Amhertdale, Logan County, WV. This operation will include five open storage piles, two screens and six (6) belt conveyors.

Raw material from Apogee Coal Company's Fanco Preparation Plant's existing and adjacent refuse storage area will be transferred by a front end loader to a dump truck which will transport it to raw material stockpile RM-1. A front end loader will transfer the raw material into bin BS-1. The anticipated size of the raw coal is 1/4" x 6". However, as this is a mixed coal stockpile, some sizes could be larger and/or smaller.

Bin BS-1 will feed raw coal directly onto the Fintec 570 Power Screen S-1. The Fintec 570 Power Screen S-1 will use a Caterpillar XQ400-6 diesel engine (Serial No. FSE00730). The power screen S-1 will sort the coal into assorted sizes. Coal larger than 6" will be fed onto belt conveyor BC-1 and transferred onto oversize stockpile OS-1. From here, the oversize coal will be broken down with on site machinery (i.e. end loader, dump truck) and then an end loader will transfer it back to hopper BS-1 for re-processing. Fines <1/8" will be sorted and dropped onto attached belt conveyor BC-2 and transferred onto fines stockpile OS-2. From here, the fines will be transferred by an end loader to clean coal stockpile OS-3 and mixed the sorted coal. Material measuring 1/8" x 6" will be transferred by attached belt conveyors BC-3 and BC-4 and transferred to bin BS-2. Bin BS-2 will feed the material into theTomra X-ray Sorting System (XSS) S-2, which will separate the cannel coal from the other materials. The sorted coal will then be dropped onto belt conveyor BC-6 and be transferred onto stockpile OS-3. The coal will be stored in stockpile OS-3 until an end loader transfers it to the existing Apogee Coal Company, LLC's Fanco Preparation Plant (045-00050, G10-D106B) and sent to market via their rail loadout system. The refuse from screen S-2 will then be dropped onto belt conveyor BC-5 and transferred onto refuse stockpile OS-4. An end loader will then transfer it into a dump truck which will transport it to Apogee Coal Company's existing/permitted refuse area located adjacent to this operation.

Secondary screen S-2 is to be a Tomra X-ray Sorting System (XSS, Serial No. 1048), which

uses an X-ray source to create a broad-band radiation field. According to the company brochure, "this radiation penetrates the segregation material and, when attenuated, hits a X-ray camera sensor using two independent sensor lines with different spectral sensitivity. The data supplied by this camera is classified using the XSS's sorting high speed X-ray processing. This way, the atomic density of the materials can be identified. The results allow the machine to identify coal from refuse, rock and other debris." and separate them using micro air pulses. An electric air compressor will be used to supply the pressurized air required for this system to separate the cannel coal from the other materials using micro air pulses.

Secondary screen S-2 is the slow point in the material flow of the facility. Screen S-2 is anticipated to operate at a maximum of 150 TPH. Primary screen S-1 is rated at 270 TPH., but will have to be fed slower to accommodate the feed rate of screen S-2.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from permit application R13-3273A and any amendments thereto:

Equipment ID No.	Date of Construction, Reconstruction or Modification [1]	Description	Maximum Capacity		Control Equipment [2]	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Equipment [2]
Raw Material Screening Facility								
RM-1	C 2015	Oversize Open Storage Pile - maximum capacity of 2,500 tons, base area of 3,400 ft^2 and 25' height - an end loader loads material from Apogee Coal Company LLC's existing Fanco Preparation Plant (045-00050, G10-D106B) refuse disposal area to a truck which transports it and dumps it onto RM-1, stores it and then an endloader transports it to BS-1	150	168,000	N	B B A	TP-1 TP-2 TP-3	PE N PE
BS-1	C 2015	Front End Loader Dump Bin - 200 tons capacity - receives material from RM-1 via an end loader and feeds it onto S-1	150	168,000	PE	B A	TP-3 TP-4	PE PE
S-1	C 2015	Fintec 570 Power Screen (Double Deck) - receives material from BS-1, classifies it and then discharges the >6" oversize material onto BC-1, the < 1/8" fine coal onto BC-2 and the 1/8" x 6" feed material onto BC-3	150	168,000	PE	B A A A	TP-4 TP-5 TP-7 TP-9	PE PE PE PE
BC-1	C 2015	Oversize Material Conveyor - receives >6" oversize material from S-1 and transfers it to OS-1	150	10,000	PE	B A	TP-5 TP-6	PE WS
OS-1	C 2015	Oversize Open Storage Pile - maximum capacity of 800 tons, base area of 2,000 ft^2 and 25' height - receives >6" oversize material from BC-1, stores it and then an end loader transfers it back to RM-1	----	10,000	WS	B A	TP-6 TP-2	WS N
BC-2	C 2015	Fine Coal Conveyor - receives fine coal from S-1 and transfers it to OS-2	150	72,000	PE	B A	TP-7 TP-8	PE WS
OS-2	C 2015	Fine Coal Open Storage Pile - maximum capacity of 800 tons, base area of 2,000 ft^2 and 25' height - receives < 1/8" fine coal from BC-2, stores it and then an end loader transfers it to a truck to be transported to Apogee Coal Company, LLC's existing Fanco Preparation Plant (045-00050, G10-D106B) for shipment	150	72,000	WS	B A A	TP-8 TP-19 TP-20	WS PE PE
BC-3	C 2015	Feed Coal Conveyor - receives the 1/8" x 6" feed coal from S-1 and transfers it to BC-3	150	168,000	PE	B A	TP-9 TP-10	PE PE
BC-4	C 2015	Feed Coal Conveyor - receives the 1/8" x 6" feed coal from BC-3 and transfers it to BS-2	150	168,000	PE	B A	TP-10 TP-11	PE PE
BS-2	C 2015	Surge Bin - 200 tons capacity - receives 1/8" x 6" feed coal from BC-4 and drops it into S-2	150	168,000	PE	B A	TP-11 TP-12	PE PE
S-2	C 2015	Tomra X-Ray Sorting System - receives 1/8" x 6" feed coal, x-rays it and identifies it by its density, ejects the rock/refuse via micro air pulses and discharges it onto BC-5 and the sorted coal onto BC-6	150	168,000	PE	B A A	TP-12 TP-13 TP-16	PE PE PE
BC-5	C 2015	Refuse Conveyor - receives refuse from S-2 and transfers it onto OS-4	150	72,000	PE	B A	TP-13 TP-14	PE WS
OS-4	C 2015	Refuse Open Storage Pile - maximum capacity of 1,450 tons, base area of 2,500 ft^2 and 25' height - receives refuse from BC-5, stores it and then an end loader transfers it to trucks to be transported back to Apogee Coal Company LLC's existing refuse disposal area	150	72,000	WS	B A	TP-14 TP-15	WS PE
BC-6	C 2015	Product Coal Conveyor - receives product coal from S-2 and transfers it onto OS-3	150	96,000	PE	B A	TP-16 TP-17	PE WS

Equip-ment ID No.	Date of Construction, Reconstruction or Modification [1]	Description	Maximum Capacity		Control Equip-ment[2]	Associated Transfer Points		
			TPH	TPY		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
OS-3	C 2015	Product Coal Open Storage Pile - maximum capacity of 800 tons, base area of 2,000 ft^2 and 25' height - receives product coal from BC-6 and <1/8" coal fines from OS-2 via an endloader, stores it and then an end loader transfers it the Apogee Coal Company, LLC's existing Fanco Preparation Plant (045-00050, G10-D106B) for shipment	----	96,000	WS	B A A	TP-17 TP-18 TP-20	WS PE PE

[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; and N - None.

SITE INSPECTION

On December 15, 2015, the writer and Jesse Adkins and Fred Teel of the DAQ's Compliance and Enforcement Section performed a site inspection where the facility is proposed to be located at the existing Apogee Coal Company, LLC's Fanco Preparation Plant (045-00050, G10-D106B). Apogee's prep plant is located on top of a mountain in a remote area adjacent to a surface mine. At the time of the inspection, Apogee's prep plant was not in operation and appeared to have been shut down for some time. We encountered a security guard stationed in a truck at the site and he did not know anything about the proposed facility or its location.

Directions to the facility from Charleston are to follow US Route 119 South past Chapmanville, turn left onto State Route 73 East toward Logan, take State Route 10 South and travel approximately 7 miles, turn left at Dabney onto County Route 14 (Rum Creek Road/Dehue Hollow Road) and follow to the foot of Lowe's Mountain, turn right onto the property at the posted signs.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haulroads are based on AP-42 Fifth Edition "Compilation of Air Pollution Emission Factors", Volume 1. Control efficiencies were applied based on "Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations." The emission factors for crushing/breaking and screening operations were obtained from the Air Pollution Engineering Manual - Air & Waste Management Association - June 1992. The 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 proposed construction will result in a potential to discharge controlled emissions of 249.40 pounds per hour (lb/hr) and 30.13 tons per year (TPY) of particulate matter (PM), of which 77.29 lb/hr and 11.05 TPY will be particulate matter less than 10 microns in diameter (PM_{10}). Refer to the following table for a summary of the proposed potential to discharge controlled emissions of PM and PM_{10}:

- Proposed Facility-wide Emissions - **Holy Smoke Coal, LLC R13-3273A**	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Open Storage Pile Emissions	0.01	0.06	0.01	0.03
Unpaved Haulroad Emissions	228.91	19.10	67.57	5.41
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	*228.93*	*19.17*	*67.57*	*5.44*
Point Source Emissions				
Equipment Emissions	15.00	8.40	7.05	3.95
Transfer Point Emissions	5.34	2.13	2.52	1.01
Engine SE-1	0.14	0.43	0.14	0.43
Point Source Emissions Total (PTE)	*20.48*	*10.96*	*9.71*	*5.38*
FACILITY EMISSIONS TOTAL	**249.40**	**30.13**	**77.29**	**11.05**

The Fintec 570 Power Screen will be powered by a Caterpillar XQ400-6 diesel engine labeled SE-1 manufactured on December 7, 2006. Engine SE-1 is from engine family 6CPXL15.2ESK and is a lean burn 4 stroke. Engine SE-1 shall not exceed 6,240 hours of operation per year and the maximum fuel throughput is 4.7 gallons per hour. The maximum permitted emission rates for engine SE-1 shall not exceed the following:

SE-1 Pollutants	**Emission Factor**	**Reference**	**Hourly Emissions (lb/hour)**	**Annual Emissions (TPY)**
NO_X	3.4 g/kw-hr [1]	Manuf. Data	3.15	9.82
CO	3.4 g/kw-hr [1]	Manuf. Data	3.15	9.82
VOC	0.00247 lb/hp-hr [2]	AP 42	1.39	4.34
SO_2	0.00205 lb/hp-hr [2]	AP 42	1.15	3.60
PM_{10}	0.15 g/kw-hr [1]	Manuf. Data	0.14	0.43
Formaldehyde	0.00118 lb/MMBtu [2]	AP 42	0.0047	0.015

[1] Emission factors for NO_X, CO and PM_{10} were taken from manufacturer's data provided on documentation from the California Protection Agency Air Resources Board

[2] Emission factors for VOC and SO_2 were taken from AP 42, Fifth Edition (10/96), Volume I, Chapter 3 Stationary Internal Combustion Sources, Section 3 Gasoline and Diesel Industrial Engines Table 3.3-1 as TOC and SO_X, which are the only emission factors available and will be a conservative estimate since VOC and SO_2 will be a portion of TOC and SO_X, respectively

[3] Emission factor for formaldehyde was taken from AP 42, Fifth Edition (10/96), Volume I, Chapter 3 Stationary Internal Combustion Sources, Section 3 Gasoline and Diesel Industrial Engines Table 3.3-2

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the facility. The proposed construction of a coal screening 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 PM_{10}) and involve the construction of equipment and open storage piles subject to NSPS Subpart Y and an engine subject to NSPS Subpart IIII. The applicant has submitted an application for a construction permit. The applicant published a Class I legal advertisement in *Logan Banner* on November 12, 2015 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 screening plant will be subject to 40 CFR 60 Subpart Y because it will be constructed after October 24, 1974 and will processes 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 IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

The provisions of Subpart IIII 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 IIII, the date that construction commences is the date the engine is ordered by the owner or operator.

The Fintec 570 Power Screen will be powered by a 2006 model 563 hp (420 kW) Caterpillar XQ400-6 diesel engineManufactured December 7, 2006. In accordance with § 60.4200 (2), this engine is subject to Subpart IIII 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 IIII, to compression-ignition engines subject to the standards of 40 CFR part 60, subpart IIII.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, this proposed coal screening 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 potential to emit will be 5.41 TPY for PM_{10} (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 be classified as a Title V deferred non-major source.

The proposed construction of a coal screening plant will <u>not</u> 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 proposed coal screening 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 potential to emit will be 11.02 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 IIII (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 Logan County, WV, which is currently in attainment for PM (particulate matter) and PM_{10} (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 R13-3273A. An example form for tracking the amount of water applied through the water truck is included as Appendix B to Permit R13-3273A. 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 Holy Smoke Coal, LLC for the construction of their Fanco Plant Operation facility to be located near Amherstdale, Logan County, WV is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

April 15, 2016
Date