



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G40-C076
Plant ID No.: 777-00139
Applicant: Bizzack Construction, LLC
Facility Name: Job 313106
Location: Logan County
SIC Code: 1429 (Crushed and Broken Limestone)
Application Type: Construction
Received Date: October 28, 2015
Engineer Assigned: Thornton E. Martin Jr.
Fee Amount: \$1,500
Date Received: October 30, 2015
Complete Date: December 03, 2015
Applicant Ad Date: October 30, 2015
Newspaper: *The Register-Herald*
UTM's: Easting: 470.5445 km Northing: 4165.2136 km Zone: 17
Description: A portable screening unit is to be located in Raleigh County, West Virginia, near Helen. The screening operation will be conducted on the Coalfields Expressway, a West Virginia Department of Transportation Project.

PROCESS DESCRIPTION

This application is for the set up of a portable rock screening unit (2004 EXTEC S-5) to screen crushed rock from the roadway excavation of the Coalfields Expressway, in Raleigh County, West Virginia. This processed rock will be used on the project as subgrade and/or backfill for paving activities.

The portable screening unit will receive its' power to operate from an electric generator, powered by a 2004 Deutz BF4M2012 Diesel Engine. The Deutz BF4M2012 engine is designed to meet exhaust regulation EU-RL 97/68 (Step 2) and US-EPA Nonroad (Tier 2) standards according

to the manufacturers' specification. The Applicant submitted the 2004 Model Year Certificate of Conformity, Certificate Number: DZX-NR5-04-17.

The process will begin with a wheel loader transferring the crushed rock from the surge pile to the portable screen receiving hopper. A water truck will provide dust suppression for the haul road and surge pile. The receiving hopper feeds the rock onto the screen. The material will go from the screen onto the two side conveyors and tail conveyor. A factory installed water spray bar will provide dust suppression for the main product conveyor. The screened rock will go from the conveyors to the stockpiles. A water truck will provide dust suppression for the stockpiles. The screened rock will be stockpiled and utilized as needed.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C076:

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment ¹
			TPH	TPY	
OS-1	2015	15,000 ton Surge pile - receives -3" crushed rock from roadway excavation, hydraulic excavator will transfer the crushed rock from the surge pile to the portable screen feeder hopper	----	250,000	SW-WS
DD-1	2004	Double deck screen - receives crushed rock from OS-1, screens material dropping onto main product conveyor BC-1	500	500,000	CS-FE
BC-1	2004	Main Product Conveyor - transfers pass thru rock from DD-1 to OS-2	500	500,000	TC-WS
OS-2	2015	14,000 ton Open Stockpile - receives screened rock from BC-1 and a hydraulic excavator or front end loader transfers to trucks	----	250,000	SW-WS
BC-2	2004	Side Conveyor - transfers oversized screened rock from DD-1 to OS-03	500	500,000	TC-WS
OS-3	2015	10,000 ton Open Stockpile - receives oversized screened rock from BC-2 and a hydraulic excavator or front end loader transfers to trucks	----	125,000	SW-WS
BC-3	2004	Tail Conveyor - transfers oversized rock from DD-1 to OS-04	500	500,000	TC-WS
OS-4	2015	10,000 ton Open Stockpile - receives oversized rock from BC-3 and a hydraulic excavator or front end loader transfers to trucks	----	125,000	SW-WS

¹ CS-FE - Full Enclosure; SW-WS - Water Sprays;
TC-WS - Transfer Point/water spray; N - None

DESCRIPTION OF FUGITIVE EMISSIONS

The sources and potential sources of fugitive emissions are as follows:

- Surge Pile
- Loadout from Surge Pile

- Receiving Hopper
- Double Deck Screen
- Hopper Belt
- Main Product Conveyor
- Tail Conveyor
- Side Conveyor
- Dumping from Conveyors to Stockpiles
- Stockpiles
- Loadout from Stockpiles

The primary fugitive dust control equipment will be a 2,000 gallon water truck. The water truck will be used primarily to control fugitive particulate emissions on the haul roads, surge pile and stockpiles. By wetting the material in the surge pile and stockpiles, fugitive particulate emissions will also be controlled at the feeder hopper, double deck screen and conveyors by moisture carry over. The water truck has a maximum application rate of approximately 150 gallons per hour and the application frequency will depend on environmental conditions. The frequency will vary from zero during rainy conditions to approximately four or five applications per day during extremely dry conditions. In addition to the water truck, a factory installed spray bar on the main product conveyor will also be used. This spray system has a maximum application rate of approximately 26 gallons per hour. Again the frequency rate will vary depending upon environmental conditions. The spray bar will be used continuously during operation.

SITE INSPECTION

Bizzack Construction has a contract with the West Virginia Department of Transportation for the Coalfields Expressway project in Raleigh County, WV. The proposed site is within the right-of-way limits of this construction project, therefore, a site inspection was not deemed necessary at this time in conjunction with this permitting action.

Directions: The crusher will be located along the proposed Coalfields Expressway.

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 haul roads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant using the General Permit G40-C Excel emission calculation spreadsheet for the transfer points and stockpiles. There are no haulroad emissions associated with this application based on the scope of the project.

The proposed construction and operation will result in the estimated potential to discharge controlled emissions of 2.74 TPY of PM (particulate matter), 1.22 TPY of PM₁₀ (particulate matter less than 10 microns), 0.062 TPY of CO (Carbon Monoxide), 0.58 TPY of NO_x (Nitrogen Oxides). Refer to the following tables for a complete summary of the proposed facility's emissions:

Table 1: Emissions Summary (less Engine)

Emissions Summary - <i>Bizzack Construction, LLC</i> <i>Coalfield Expressway Site</i>	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.19	0.83	0.09	0.39
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	<i>0.19</i>	<i>0.83</i>	<i>0.09</i>	<i>0.39</i>
Point Source Emissions				
Equipment Emissions	1.25	0.63	0.44	0.22
Transfer Point Emissions	2.57	1.28	1.21	0.61
Point Source Emissions Total	<i>3.82</i>	<i>1.91</i>	<i>1.65</i>	<i>0.82</i>
FACILITY EMISSIONS TOTAL				
	4.01	2.74	1.74	1.22

Table 1a: Engine Emissions (based on 2004 EPA Certificate of Conformity)

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
ENG	Carbon Monoxide	0.12	0.062
	Nitrogen Oxides	1.16	0.58
	Sulfur Dioxide	N/A	N/A
	PM ₁₀	0.017	0.008
	Volatile Organic Compounds	N/A	N/A
	Formaldehyde	N/A	N/A

REGULATORY APPLICABILITY

The proposed construction and operation of a portable screening unit is subject to the following state and federal rules:

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C076 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of

1,000,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate is 3.82 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C076.

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 has the potential to discharge greater than 6 pph (pounds per hour) and 10 tpy (tons per year) of uncontrolled emissions of a regulated air pollutant. The applicant has applied for a G40-C registration to construct, submitted the proper \$1,500 application fee and published a Class I legal advertisement in the *The Register-Herald* on October 30, 2015.

45CSR16 Standards of Performance for New Stationary Sources

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the portable screening facility will be a non-major source which is subject to NSPS Subpart III. The facility's potential to emit will be 0.82 TPY of a regulated air pollutant (PM₁₀), not including fugitive emissions from haulroads, 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.

45CFR60 Subpart III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Bizzack Construction, LLC is subject to this subpart because the owner and operator will have commenced construction after July 11, 2005.

§60.4204(a) states that owners and operators of pre -2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in Table 1 to this subpart.

According to Table 1 of this Subpart, for pre -2007 engines rated at (100≤HP<175), the NOx emissions cannot exceed 6.9 g/hp-hr (1.63 lb/hr). The engine emissions for ENG are EPA Tier 2 Certified where the engine family has been certified that NOx emissions will not exceed 1.16 lb/hr.

40CFR63 Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Bizzack Construction, LLC is subject to 40CFR63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because ENG is considered a new area source of HAP's since it will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 45CFR60 Subpart III.

The proposed construction of Bizzack Construction, LLC's portable screening facility 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

The facility will have the potential to emit 1.91 TPY of a regulated air pollutant (PM), not including fugitive emissions from haulroads, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

40CFR60, Subpart OOO Standards of Performance for Nonmetallic Mineral Processing Plants

This facility is not subject to 40 CFR 60, Subpart OOO, Without any crushing or grinding mill associated with this unit, any affected facilities defined under Subpart OOO are no longer relevant.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

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

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed construction. This facility will be located in Raleigh County, WV, which is currently designated as attainment for PM_{2.5} (particulate matter less than 2.5 microns in diameter).

GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G40-C.

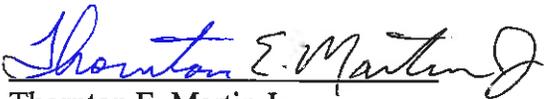
MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals processed.
2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform are applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all 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. No public comments were received. Therefore, the granting of a G40-C registration to Bizzack Construction, LLC for the construction and operation of a portable screening unit located near Helen, WV is hereby recommended.



Thornton E. Martin Jr.,
Permit Engineer

December 03, 2015

Date