Id. No. 777-00137 Reg. G40-C072
Company Bizzack Construction, LLC
Facility Metso (Coalfields Expressway) Region 4
Initials TEM

west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	G40-C072
Plant ID No.:	777-00137
Applicant:	Bizzack Construction, LLC
Facility Name:	Metso LT120 #41.6002
Location:	Logan County
SIC Code:	1429 (Crushed and Broken Limestone)
Application Type:	Construction
Received Date:	July 20, 2015
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$1,500
Date Received:	July 21, 2015
Complete Date:	September 14, 2015
Applicant Ad Date:	July 27, 2015; Re-published corrected: August 12, 2015
Newspaper:	*The Register-Herald*
UTM's:	Easting: 469.2179 km Northing: 4165.5609 km Zone: 17
Description:	A portable crusher is to be located in Raleigh County, West Virginia, near Helen. The crushing 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 crusher to process shot 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 for paving activities.

The process will begin with a dozer pushing the roadway excavation to the surge pile (1). A water truck will provide dust suppressions for the haul road and surge pile. A hydraulic excavator will transfer the shot rock from the surge pile to the portable crusher feeder hopper (2). The vibrating grizzly feeder hopper feeds the shot rock to the jaw crusher (3). The material will go from

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the Jaw crusher onto the main product conveyor (4) or onto a vibrating screen and then to the main product conveyor and the side conveyor (7). A factory installed water spray bar will provide dust suppression for the main product conveyor. From the conveyors the processed rock will go to stockpiles (5 & 8). A water truck will provide dust suppression for the stockpiles. The processed rock will be stockpiled for use in paving activities for the project at a later date.

The portable unit to be utilized is a Metso Lokotrack LT120 Jaw Crusher. The unit has a Caterpillar, Model C13 ACERT, 415 bhp @ 2100 rpm, diesel engine, (ENG), manufacture date of 2013, EPA Tier 4i certification, to operate the systems for both movement around the site and shot rock processing.

There are no VOC's or HAP's associated with this process.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C072:

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment [1]
			TPH	TPY	
OS-1	2015	15,000 ton Surge pile - receives +24"/-3" shot rock from roadway excavation, hydraulic excavator will transfer the shot rock from the surge pile to the portable crusher feeder hopper	----	130,000	SW-WS
CR-1	2015	Jaw Crusher - receives shot rock from OS-1, crushes material dropping onto main product conveyor BC-1	400	300,000	CS-FW
BC-1	2015	Main Product Conveyor - transfers crushed shot rock from CR-1 to OS-2	400	300,000	TC-WS
OS-2	2015	15,000 ton Open Stockpile - receives processed rock from BC-1 and a hydraulic excavator or front end loader transfers to trucks	----	130,000	SW-WS
BC-2	2015	Side Conveyor - transfers oversized shot rock from CR-1 to OS-03	300	225,000	TC-WS
OS-3	2015	10,000 ton Open Stockpile - receives oversized shot rock from BC-2 and a hydraulic excavator or front end loader transfers to trucks	----	87,000	SW-WS

[1] CS-FW - Full Enclosure w/water spray; 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:

- Pushing to Surge Pile
- Surge Pile
- Feeding Vibrating Grizzly Feeder Receiving Hopper
- Vibrating Grizzly Feeder

- Jaw Crusher
- 47" Main Product Conveyor
- 26" Side Conveyor
- Dumping from Conveyors to Stockpiles
- 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, jaw crusher 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 very little during the rainy conditions and continuously during extremely dry conditions.

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. Crush and screening emissions were found to be overstated, however, crushing and screening emissions are controlled by full enclosures by design.

The proposed construction and operation will result in the estimated potential to discharge controlled emissions of 1.13 TPY of PM (particulate matter), 0.53 TPY of PM_{10} (particulate matter less than 10 microns), 0.025 TPY of CO (Carbon Monoxide), 0.47 TPY of NOx (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 - *Bizzack Construction, LLC Coalfield Expressway Site*	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
		Fugitive Emissions		
Stockpile Emissions	0.14	0.61	0.06	0.28
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	*0.14*	*0.61*	*0.06*	*0.28*
		Point Source Emissions		
Equipment Emissions	0.08	0.03	0.04	0.02
Transfer Point Emissions	1.32	0.50	0.62	0.23
Point Source Emissions Total	*1.40*	*0.53*	*0.66*	*0.25*
FACILITY EMISSIONS TOTAL	**1.54**	**1.13**	**0.73**	**0.53**

Table 1a: Engine Emissions

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
ENG	Carbon Monoxide	0.05	0.025
	Nitrogen Oxides	0.94	0.47
	Sulfur Dioxide	N/A	N/A
	PM_{10}	N/A	N/A
	Volatile Organic Compounds	N/A	N/A
	Formaldehyde	N/A	N/A

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed construction and operation of a portable crusher 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-C072 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 800,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter.

The maximum emission rate is 1.40 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C072.

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 a regulated air pollutant based on 8,760 hours of operation. 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 August 12, 2015.

45CSR16 *Standards of Performance for New Stationary Sources*
40 CFR 60 *Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants*

The proposed construction is subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 150 tons of rock per hour. The proposed construction will include one (1) jaw crusher, two (2) belt conveyors and three (3) stockpiles, which is defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C072 are in operation.

45CSR30 *Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, the portable crushing facility will be a non-major source which is subject to NSPS Subpart OOO. The facility's potential to emit will be 0.53 TPY of a regulated air pollutant (PM_{10}), 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 IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Bizzack Construction, LLC is subject to this subpart because the engine was manufactured after April 1, 2006. The engine emissions for ENG is EPA Tier 4i Certified.

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 IIII.

The proposed construction of Bizzack Construction, LLC's portable crushing 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 1.54 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.

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 PM_{10} (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 crusher located near Helen, WV is hereby recommended.

Thornton E. Martin Jr.,
Permit Engineer

September 14, 2015
Date