



**west virginia department of environmental protection**

Division of Air Quality  
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Jim Justice, Governor  
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**GENERAL PERMIT REGISTRATION APPLICATION  
ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Registration No.: G50-B106A  
Plant ID No.: 033-00262  
Applicant: Foster Supply, Inc.  
Facility Name: Mt. Clare  
Location: Mt. Clare, Harrison County  
SIC / NAICS Code: 3273 / 327390  
Application Type: Class II Administrative Update  
Received Date: January 27, 2017  
Engineer Assigned: Thornton E. Martin Jr.  
Fee Amount: \$300.00  
Complete Date: March 07, 2017  
Applicant Ad Date: January 27, 2017  
Newspaper: *The Exponent Telegram*  
UTM's: Easting: 562.142 km Northing: 4338.657 km Zone: 17  
Description: Applicant was issued a General Permit to Construct (G50-B106) on September 12, 2016. This administrative update is to include weigh hopper (WH-3) that was omitted from the original application. The operation of the concrete batch plant will maintain a maximum production rate of 7.5 tons per hour and 7,800 tons per year for internal use only.

PROCESS DESCRIPTION (taken from the Application)

Raw materials from Alcon and Cemex. Alcon will be delivering the #57 stone and sand. Both sand and stone will be delivered by dump truck (TD) to Foster Supply and will dump the sand into 3-sided sand enclosure (E3-1) and #57 stone into 3-sided stone enclosure (E3-2). The cement is also delivered by truck and pumped into cement silo (UL-BH) (35 ton) equipped with a dust collector (WAM, Silo top R03).

Once sand and stone are in storage (E3-1 and E3-2) (25 ton capacity), there will be sprinklers used as a dust control method (SW-WS) and to assist in proper moisture control in concrete production. The sand and stone will be transferred from storage areas (E3-1 and E3-2) by skid-steer and will be loaded into weigh bins which are partially enclosed (TC-PE-1 and TC-PE-2) and sloped to provide a minimized drop height (MDH) in order to control dust production.

Sand and stone are then weighed to proper quantity and drop out of weigh bins (WH-1 and WH-2) onto a conveyor belt (LO-UC). This conveyor travels up to the top of the mixer and discharges into the mixer (conveyor flow rate is 11,000 lb/min). The transfer point at the top of conveyor is

partially enclosed (PE) with a rubber mat in order to minimize dust. Cement drops into a screw auger and is full enclosed (TC-FE) in order to prevent dust from escaping. The screw auger moves material at 2,800 lb/min. The auger empties into cement weigh batcher (WH-3), which is fully enclosed (FE). After the proper amount of cement is weighed, it drops into the mixer (CM-1) through a rubber boot that provides a full enclosure to prevent escape of dust (TC-FE).

Once all raw materials are in the mixer, mixer is fully enclosed to prevent escaping dust (FE), water and add mixtures are added to the sand, stone and cement and mixed according to manufacturers instructions until complete. Once complete, the concrete is discharged into a hopper, which is then taken to forms by fork truck and emptied into molds.

Foster Supply, Inc. purchased a cement silo (35 ton) with an attached WAM, Silo top R03 particulate matter capture system (APCD-1). The Silo top R03 is a cylindrical dust collector for venting pneumatically filled silo's. The particulate matter is separated from the air by 7 spun bound polyester cartridges and falls back into the silo. The cartridges are made of 8 oz. Fabric and have a total cartridge area of 264 ft.<sup>2</sup> The unit is self-cleaning and does not require the use of a fan because the silo is filled pneumatically.

Foster Supply, Inc. proposes to utilize the following equipment at the Mt. Clare location in Harrison County, WV:

Table 1: Equipment List

Equipment ID No.	Description	Maximum Production Rate		Control Equipment <sup>1</sup>
		Hourly	Annual*	
CM-1	Voeller 2YD - Cement Mixer	7.5 tons / hr	7,800 tons / yr	FE
WH-1	Voeller 23T - Weigh Hopper	45 tons / hr	46,800 tons / yr	PE
WH-2	Voeller 23T - Weigh Hopper	45 tons / hr	46,800 tons / yr	PE
WH-3	Voeller 2YD - Weigh Hopper	7.5 tons / hr	7,800 tons / yr	PE
BC-1	Belt Conveyor	11,000 lb/min	N/A	N
SC-1	Screw Auger	2,800 lb/min	N/A	FE
<b>Storage</b>		<b>Storage Capacity</b>	<b>Maximum Yearly Throughput</b>	
E3-1	Stockpile – Sand - 3 sided enclosure	50 tons	6,300 tons / yr	PE
E3-2	Stockpile – #57 Stone - 3 sided enclosure	50 tons	7,700 tons / yr	PE
BS-1	Storage Silo – Cement	35 tons	2,700 tons/yr	APCD-1
T-1	Water Tank	100 gal.	16,224 gal / yr	N

<sup>1</sup> FE - Full Enclosure; PE - Partial Enclosure; APCD-1 - Fabric Filter Baghouse; N/A - Not Applicable; N - None

\* Based on 1040 maximum operational hours annually

SITE INSPECTION

Karl Dettinger of the WVDAQ North Central Regional Office performed a pre-construction site visit on August 29, 2016. Mr. Dettinger met with Justin Hayes, who is the manager of the facility. Mr. Hayes showed him where the proposed equipment will be set (the mixer – 2 cu. yd. – will be inside the building where the molds currently reside, and the aggregate bins, cement silo, and conveyors will be directly outside). According to Google Earth, the approximate location of the outside equipment is 39°11'41.57" N and 80°16'48.06" W. The closest house is about 280 feet by Google Earth (the residence is south of the facility). Mr. Hayes was asked if he knew the name of the owner, and he said the lady who owned the house had recently died, and the house was for sale.

Directions: Travel I-79 North, take exit 115 for WV-20 to Stone Wood / Nutter Fort, turn right onto WV-20 South. Travel approximately 1.5 miles and Foster Supply will be on the right.

ESTIMATE OF EMISSIONS

Fugitive emissions from haulroads will be controlled by the utilization of a water tank truck as needed. A WAM, Silo top R03 will control particulate matter from BS-1. Foster Supply, Inc. used the provided General Permit G50-B Emission Calculation Spreadsheet for concrete batch plants, G50BECALC, to calculate emissions for the portable concrete batch plant.

The maximum controlled emissions for Foster Supply, Inc.'s facility are summarized in the following table:

Table 2: G50-B106A Emissions Summary:

Emission Source	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions		Change in PM Emissions		Change in PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>								
Unpaved Haulroad Emissions	63.32	8.23	18.69	2.43	0.00	0.00	0.00	0.00
Stockpile Emissions	0.02	0.11	0.01	0.05	0.00	0.00	0.00	0.00
<b>Fugitive Emissions Total</b>	<i>63.34</i>	<i>8.34</i>	<i>18.70</i>	<i>2.48</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<b>Point Source Emissions</b>								
Transfer Point Emissions	3.06	0.77	1.65	0.45	2.04	0.24	1.04	0.13
<b>Point Source Emissions Total (PTE)</b>	<i>3.06</i>	<i>0.77</i>	<i>1.65</i>	<i>0.45</i>	<i>2.04</i>	<i>0.24</i>	<i>1.04</i>	<i>0.13</i>
<b>FACILITY EMISSIONS TOTAL</b>	<b>66.40</b>	<b>9.11</b>	<b>20.36</b>	<b>2.93</b>	<b>2.04</b>	<b>0.24</b>	<b>1.04</b>	<b>0.13</b>

\* Based on 1040 maximum operational hours annually

GENERAL PERMIT ELIGIBILITY

Foster Supply, Inc.'s application for a concrete batch plant is eligible for a Class II General Permit registration G50-B because:

1. It has the SIC of 3271;
2. It is not a major source as defined in 45CSR14, 45CSR19 or 45CSR30;
3. It is not subject to 45CSR2, 45CSR3, 45CSR14, 45CSR16, 45CSR19, or 45CSR30;
4. It is not a cement manufacturing plant (NAICS 327310; SIC 3241), concrete pipe manufacturing plant (NAICS 327332; SIC 3272) or clay brick or structural clay tile manufacturing plant (NAICS 327121; SIC 3251);
5. It meets the definition of concrete batch plant set forth in DRAFT class II General Permit G50-B;
6. It does not incorporate:
  - a. A mine, quarry or crushing and screening operation;
  - b. A highwall truck dump;
  - c. A petroleum liquid storage vessel or tank greater than 39,889 gallons capacity; or

- d. A petroleum liquid storage vessel or tank greater than or equal to 19,812 gallons capacity and a working true vapor pressure which exceeds 15.0 kPa (2.17 psia);
- 7. It will not require an individual air quality permit review process and/or individual permit provisions to address the emission of a regulated pollutant or to incorporate regulatory requirements other than those established by 45CSR7, 45CSR13, and 45CSR17;
- 8. It is not located in or does not significantly impact the area of Brooke County west of State Route 2, north of an extension of the southern boundary of Steubenville Township in Jefferson County, Ohio and south of the Market Street Bridge;
- 9. It is not located within the boundaries of or which may significantly impact the Weirton nonattainment area; or
- 10. It is not located in or which may significantly impact an area which has been determined to be a PM10 maintenance or nonattainment area.

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed modification through an administrative update of a ready mix concrete batch plant 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 G50-B106 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 the potential to discharge is less than six (6) pounds per hour and ten (10) tons per year, and 144 pounds per day of a regulated air pollutant (PM and PM10), the proposed modification requires an application for an administrative update. The applicant submitted an application fee of \$300 and published a Class I legal advertisement in the *The Exponent Telegram* on January 27, 2017.

*45CSR17 To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter*

Per §45-17-3.1 no person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.

45CSR22 *Air Quality Management Fee Program*

This rule establishes a program to collect fees for certificates to operate and for permits to construct, modify or relocate sources of air pollution. Funds collected from these fees will be used to supplement the Director's budget for the purpose of maintaining an effective air quality management program. An Application for a Certificate to Operate (CTO) will be enclosed with the permit at time of issuance as this will be a new construction.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

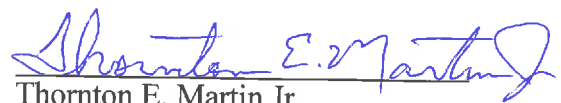
A toxicity analysis was not performed because the pollutants that will be emitted from this facility are PM (particulate matter) and PM10 (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed Construction. This facility will be located in Harrison County, WV, which is currently designated as attainment for PM2.5 (particulate matter less than 2.5 microns in diameter).

RECOMMENDATION TO DIRECTOR

The information contained in this administrative update 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. Therefore, the granting of a G50-B registration to Foster Supply, Inc. for the operation of a concrete batch plant located near Mt. Clare, Harrison County, WV is hereby recommended.

  
Thornton E. Martin Jr.  
Permit Engineer

March 07, 2017  
Date