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GENERAL PERMIT REGISTRATION APPLICATION ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Registration No.:	G50-B108
Plant ID No.:	777-00141
Applicant:	Patriot Ready Mixed Concrete, LLC
Facility Name:	Tabler Station Plant
Location:	Inwood, Berkeley County
SIC Code:	3273
Application Type:	Construction
Received Date:	November 16, 2016
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$500.00
Date Received:	November 17, 2016
Complete Date:	December 09, 2016
Applicant Ad Date:	November 10, 2016
Newspaper:	*The Journal*
UTM's:	Easting: 757.606 km Northing: 4365.934 km Zone: 17
Description:	Applicant is proposing to construct a concrete batch plant at 396 Development Drive near Martinsburg, Berkeley County, WV.

PROCESS DESCRIPTION

After initial plant setup:

1) Aggregate and sand are delivered via dump truck and unloaded into enclosed stockpile areas (E3-1 & E3-2). To minimize fugitive emissions aggregate stockpile area and dump truck unloading area are to be sprayed, as needed with water, using sprinklers. Dump truck haul roads are to be sprayed, as needed with water from the contractor's water truck.

2) Cement and flyash are delivered via truck and pneumatically unloaded into enclosed storage silos (BS-1 & BS-2). To minimize fugitive emissions, a silo dust collector (APCD-2) is attached to the cement and flyash storage silos. Cement and flyash truck unloading area is to be sprayed, as needed with water, using sprinklers. Haul roads for cement and flyash

deliveries are to be sprayed, as needed with water from the contractor's water truck.

3) Water tank (T-3) is filled from available water source.

4) Admixtures are delivered.

After all constituents are delivered and stockpiled:

1) Aggregate and sand are loaded into the plant via wheel loader. To minimize fugitive emissions, wheel loader work area is to be sprayed, as needed with water, using sprinkler (WS-2).

2) Water is heated (if needed) using a 1.4 million BTU #2 fuel fired boiler.

Once the plant is filled and water heated:

1) Aggregate and sand are weighed, cumulatively, into the weigh hopper (WH-1). To minimize fugitive emissions, weigh hopper (WH-1) is enclosed, additionally, a minimum drop height between the storage bin and weigh hopper is used.

2) Cement and flyash are weighed, cumulatively, into the weigh hopper (WH-2). To minimize fugitive emissions, cement and flyash are conveyed to the weigh hopper via fully enclosed system. Weigh hopper (WH-2) is connected via flexible ducting to the dust collector (APCD-1).

3) Water meter is preset to the desired amount.

4) Admixture dispensers are filled to the desired amount.

5) As constituents are weighed or measured, the plant operator confirms that the weights and measures are correct. In the event the amounts are incorrect, the plant operator will take appropriate action to ensure correct amounts.

After all constituents are weighed and confirmed as correct:

1) The plant operator begins to discharge the constituents into the mixer truck, in the proper sequence. Aggregate and sand are discharged into the truck via partially enclosed conveyor belt. Then, cement and flyash are discharged directly from the weigh hopper (WH-2) into the mixer truck. To minimize fugitive emissions, the loading hopper of the mixer truck is inside of a shroud. The shroud is connected to the dust collector (APCD-1) via rigid and flexible ducting. The loading shroud has three (2) pickup points located directly above the mixer truck loading hopper. All of the dust captured in the dust collector (APCD-1) is pneumatically recycled into the flyash silo.

2) The mixer truck driver will fill or refill their water tank(s), if needed, while the truck is being loaded.

3) After the mixer truck is loaded, the plant operator will confirm that all ingredients were properly loaded. The mixer truck driver will confirm that any and all loose materials are removed from the truck before leaving the plant site and proceeding to the jobsite. To minimize fugitive emissions, the haul roads for the mixer truck entering and leaving the plant are to be sprayed, as needed with water from the contractor's water truck.

Throughout the day, aggregate and sand may be delivered to the stockpiles, cement and flyash may be delivered to the storage bins. These deliveries are concurrent with the loading of mixer trucks.

Patriot Ready Mixed Concrete, LLC proposes to utilize the following equipment at the Tabler Station facility:

Table 1: Equipment List

Equipment ID No.	Description	Maximum Capacity		Control Equipment
		TPH	TPY	
Plant				
CBP-1	58061/2015	300	750,000	APCD-1
Hoppers				
WH-1	Weigh hopper – Aggregate & Sand	38	95,000	APCD-1
WH-2	Weigh hopper – Cement & Fly ash	6.6	16,500	APCD-1
Baghouses				
APCD-1	Baghouse – C&W CP7500M – Pulse w/Timer			
APCD-2	Filter Vent - Stephens SOS1020x2			
Storage		**Storage Capacity**	**Maximum Yearly Throughput**	
E3-1	Open stockpile – Aggregate – 1,000 ft^2 max base	350 tons	54,150 tons/yr	PW
E3-2	Open stockpile –Sand – 1,000 ft^2 max base	350 tons	40,850 tons/yr	PE
BS-1	Storage silo – Cement	75 tons	13,200 tons/yr	FE, APCD-2
BS-2	Storage silo – Fly ash	30 tons	3,300 tons/yr	FE
T-1	Storage tank – Diesel	500 gallons	60,000 gal/yr	N
T-2	Storage tank – Water	10,000 gallons	20,000,000 gal/yr	N

FE - Full Enclosure; PE - Partial Enclosure; PW - Partial Enclosure w/water spray; APCD-1 - C&W CP7500M Baghouse; APCD-2 - Stephens SOS1020x2 Filter Vent

SITE INSPECTION

This portable plant will be located on-site for the Proctor & Gamble facility being constructed near Martinsburg in Berkeley County, WV. Joseph Kreger of the Compliance and Enforcement Section in our Eastern Panhandle Regional Office is familiar with the proposed construction site. There should be no issue for the Applicant to qualify for a General Permit G50-B to construct. The writer deemed that a site visit was not necessary at this time.

Directions: From Interstate 81, take exit 8 to East bound Tabler Station Rd., turn left at Development Drive to the project entrance.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, 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 G50-B. The estimated emission calculations were performed by the applicant using the General Permit G50-BCALC emission calculation spreadsheet and were checked for accuracy and completeness by the writer. The portable concrete batch plant has the ability to operate at 300 tons/hr or 750,000 tons/yr, however, the Applicant's contract is only for 120,000 cubic yards over 18 months. Emission calculations are based on the contract value instead of maximum production rate.

Fugitive emissions sources include those generated from the delivery and unloading of aggregate and sand, and the subsequent use of the wheel loader to transfer these materials to the batch plant. Fugitive emissions resulting from delivery and transfer by wheel loader are minimized by the use of water sprinklers. Fugitive emissions generated from weighing the aggregate and sand is controlled by enclosing the weigh hopper for these materials.

Cement and flyash emissions are controlled by the use of a central dust collector attached to separate enclosed silos for each material. Additionally, the central dust collector will be used to control emissions when weighing both the cement and flyash in the weigh hopper.

Fugitive emissions that are generated when the mixer truck is being loaded will be collected by the central dust collector via loading shroud.

All materials collected by the central dust collector shall be returned to the flyash silo using a totally enclosed pneumatic system. This return process is automatic and programmable to adjust for frequency of loading and unloading.

The dust collector is equipped with a device to measure pressure drop across the filter elements and is monitored and recorded daily. Filter elements are cleaned and/or replaced whenever the pressure drop is outside of the manufacturer's recommended operating parameters.

All haul roads will be of coarse gravel and fugitive emissions will be controlled by water spray, as need, from sprinklers. The sprinklers will be supplied by teo pumps supplying the water at a rate of 40 gal/min. Sprinklers will be controlled individually and manually. Sprinkler heads will be removed and lines evacuated using compressed air to prevent freezing.

The proposed construction will result in the estimated potential to discharge controlled emissions of 2.37 pounds per hour and 4.19 TPY of PM (particulate matter), of which 1.11 pounds per hour and 1.94 TPY are PM_{10} (particulate matter less than 10 microns in diameter).

Refer to the following table for a complete summary of the proposed facility's emissions:

Table 2: Facility emissions proposed in G50-B108:

Emission Source	Controlled PM Emissions		Controlled PM_{10} Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.01	0.06	0.01	0.03
Unpaved Haulroad Emissions	1.48	3.03	0.66	1.36
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	*1.49*	*3.09*	*0.67*	*1.39*
Point Source Emissions				
Equipment Emissions	0.00	0.00	0.00	0.00
Transfer Point Emissions	0.88	1.10	0.44	0.55
Point Source Emissions Total (PTE)	*0.88*	*1.10*	*0.44*	*0.55*
FACILITY EMISSIONS TOTAL	**2.37**	**4.19**	**1.11**	**1.94**

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed construction of a stone crushing and screening 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-B108 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 90,000 lb/hour, the maximum allowable emission rate is 33 lb/hour of particulate matter. The maximum emission rate is 2.37 lb/hour of particulate matter according to calculated emissions in fact sheet G50-B108.

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 six (6) pounds per hour and ten (10) tons per year, and 144 pounds per day of a regulated air pollutant (PM and PM_{10}), the proposed construction requires an application to construct. The applicant submitted the proper $500 application fee and published a Class I legal advertisement in *The Journal* on November 10, 2016.

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 PM_{10} (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 proposed location of this facility. This facility will be located in Berkeley County, WV, which is currently in attainment for PM (particulate matter), PM_{10} (particulate matter less than 10 microns in diameter) and a 1997 approved maintenance plan for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter).

GENERAL PERMIT ELIGIBILITY

Patriot Ready Mixed Concrete, LLC'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 3273;
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 page 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 45CSR22;
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.

State rules 45CSR7, 45CSR13 and 45CSR22 apply to the facility. No federal regulations apply.

RECOMMENDATION TO DIRECTOR

Patriot Ready Mixed Concrete, LLC's request to construct a portable concrete batch plant near Martinsburg, Berkeley County, WV, meets the requirements of General Permit G50-B and all applicable rules. Therefore, it should be granted a General Permit Registration to operate the Tabler Station Facility.

Thornton E. Martin Jr.
Permit Engineer

December 09, 2016
Date