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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	G40-C074
Plant ID No.:	003-00152
Applicant:	Mellott Company
Facility Name:	Proctor & Gamble Warehouse
Location:	Martinsburg, Berkeley County
NAICS Code:	212312
Application Type:	Construction
Received Date:	October 01, 2015
Engineer Assigned:	Steven R. Pursley, PE
Fee Amount:	1,500.00
Date Received:	October 1, 2015
Complete Date:	October 29, 2015
Due Date:	December 11, 2015
Applicant Ad Date:	October 2, 2015
Newspaper:	*The Journal*
UTM's:	Easting: 755.73 Northing: 4,365.93 Zone: 17
Description:	Construction of a rock crushing and screening plant.

DESCRIPTION OF PROCESS

The following process description was taken from Registration Application G40-C073:

Mellott Company is proposing to install a rock crushing and screening operation to process stone to make a usable aggregate material for the warehouse project. All material will remain onsite. Stockpiles will be at a minimum.

The main plant will consist of primary, secondary and tertiary crushing/screening operations. The primary section will include a Metso C120 jaw crusher with a vibrating grizzly feeder. The secondary circuit will include a Metso HP300 cone crusher and a 6 x 20, triple deck screen. The tertiary circuit will include a Metso, HP400 cone crusher and another 6 x 20 triple deck screen. The plant will have a total of fifteen (15) belt conveyors.

This equipment will be powered by using three (3) generators. One of the generators is rated at 1,214 HP and the other two are rated at 1,081 HP.

Materials are loaded and transported to location of the processing plant muck pile by the building contractor. Material is then transported from the muck pile to the primary feeder via Mellott Company Caterpillar loaders. The primary feeder (BS-1) empties into the primary jaw (JC-1). The primary jaw crusher reduces the size of the material to 6" minus. The material is then conveyed via conveyors BC-1, BC-8 and BC-5 to the secondary screen (TD-1). The secondary screen sizes material to 2A's which is then conveyed via BC-3 to conveyor BC-11 which stockpiles the material. The secondary screen also sizes material to 3's. This material is can either be pulled out and stockpiled via conveyor BC-26 to BC-12, or it can be sent to the HP300 crusher (OT-1).

The oversize material from the secondary screen is fed directly into the HP300 crusher (OT-1) which crushes the material to a 2" minus. The crushed material is then fed via BC-2 to BC-9 and then goes to the tertiary screen (TD-2). The tertiary screen sizes the material to 3/8" minus which is conveyed by BC-6 to BC-15 which stockpiles the material. BC-15 is a radial stacker which can be moved to blend this material into the 2A's stockpile.

The ¾" x 3/8" material goes to the stockpile via BC-14. The 1-1/2" x ¾" is stockpiled via BC-13. The oversize material from the screen goes directly into the HP400 cone crusher (OT-2) which reduces the material to ¾" minus. The crushed material is then returned to the tertiary screen via BC-7 and the return belt (BC-10).

Mellott Company is also proposing the use of four (4) track units that can be used separately or in conjunction with each other at various locations on the project site. Each track unit is powered by its' own diesel-fired engine. The track units include one (1) Metso 1213 impact crusher, one (1) Metso 106 jaw crusher, one (1) Metso 116 jaw crusher, one (1) Metso HP300 cone crusher and ten (10) conveyors. Four (4) of these conveyors will not be in use during the operation, but they are attached to the track units. Each track unit also has a vibrating grizzly feeder.

SITE INSPECTION

A site inspection of the proposed site was performed by Christopher Scanlan of DAQs Eastern Panhandle Regional office on November 17, 2015. He reported the following:

"I did an onsite inspection today at the Procter and Gamble site. I met with the construction manager, and he showed me approximately where the crusher and screens would be set up. The way he described it, it would be around 39°24'59.62"N 77°59'57.44"W. It's more north than where the document, 6 plot plan with plant layout, that we received showed where it would be. There is no equipment on-site. The area is an industrial site with the closest residence around 1,800 feet away to the south-east. Everything looked in compliance with where the crusher will be running at."

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this construction application consist of the emissions from the main plant and four track units. Emissions from the main plant consist of emissions from one stationary jaw crusher, two stationary cone crusher, two 3 deck screens and fifteen conveyors. This equipment will be powered by 3 diesel fired generators, one rated at 1,214 hp and the other two rated at 1,081 hp each.

Each of the four track units includes a crusher (three of the units have jaw crushers and one has a cone crusher) and a vibrating grizzly feeder. The four units also include a total of 10 conveyors. It should be noted that although emissions from the engines that power the crushers and drive the track units were included in the application, they are NOT included in this summary. This is because, in the writers opinion, the engines clearly meet the definition of non-road / mobile internal combustion engines in 40 CFR 60 Subpart IIII (which references 40 CFR 1068.30).

Mellott used the G40-C DAQ Excel spreadsheet for the particulate matter calculations. CO and NO_x emissions from the 3 diesel fired engines were based on manufacturer data. All other emissions from the engines were based on AP-42.

Controlled emissions from the facility will be as follows:

	NO_x		CO		PM		PM_{10}		VOCs		SO_2		HCHO		Benzene		Acetaldehyde		Tot. HAPs	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Crush & Scr	--	--	--	--	7.19	8.63	2.70	3.24	--	--	--	--	--	--	--	--	--	--	--	--
Trans. Pts	--	--	--	--	3.53	4.23	1.67	2.00	--	--	--	--	--	--	--	--	--	--	--	--
Stockpiles	--	--	--	--	0.01	0.05	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
UPHR	--	--	--	--	58.62	67.53	17.3	19.93	--	--	--	--	--	--	--	--	--	--	--	--
CE-1	5.49	24.04	0.97	4.24	2.25	9.86	2.25	9.86	2.54	11.13	2.11	9.22	0.01	0.04	0.01	0.03	0.01	0.02	0.03	0.12
CE-2	5.51	24.12	0.97	4.24	2.25	9.86	2.25	9.86	2.54	11.13	2.11	9.22	0.01	0.04	0.01	0.03	0.01	0.02	0.03	0.12
CE-3	3.46	15.16	0.15	0.67	2.42	10.61	2.42	10.61	2.73	11.97	2.27	9.92	0.01	0.04	0.01	0.03	0.01	0.03	0.04	0.15
Total	14.46	63.32	2.09	9.15	76.27	110.77	28.60	55.52	7.81	34.23	6.49	28.36	0.03	0.12	0.03	0.09	0.03	0.07	0.10	0.39

REGULATORY APPLICABILITY

The following rules apply to the facility:

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-C074 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 890,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate from all crushing and screening is 7.19 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C074.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation

45CSR13 applies to this source due to the fact that the proposed facility is defined as a "stationary source" under 45CSR13 Section 2.24.b, which states that an owner or operator discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day of any regulated air pollutant. Mellott has published the required Class I legal advertisement notifying the public of their permit application, and paid the appropriate application fee (construction).

45CSR16 Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60

45CSR16 applies to this source by reference of 40CFR60, Subparts OOO and IIII. These requirements are discussed under those rules below.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, this facility will be a non-major source which is subject to NSPS Subpart OOO. Emissions of all individual criteria pollutants is less than the 45CSR30 threshold of 100 TPY (not including fugitive emissions from haul roads). Therefore, the facility will be subject to 45CSR30 and classified as a Title V deferred non-major source.

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 25 tons of rock per hour. The proposed construction will include seven (7) crushers, two screens and five (5) stockpiles, which are 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-C074 are in operation.

40CFR60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)

Subpart IIII sets forth non-methane hydrocarbon (NMHC), hydrocarbon (HC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. Since CE-1 and CE-2 were constructed before July 11, 2005 they are not subject to this subpart. However, since the 1,214 hp CE-3 was manufactured on October 27, 2006, it is subject to this subpart. The unit is required to meet the standards of 1.3 g/kw-hr for HC, 9.2 g/kw-hr for NO_x, 11.4 g/kw-hr for CO and 0.54 g/kW-hr for PM. Since Mellot has state that the engine is not a certified engine, it will be subject to performance testing.

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

Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. Because the engine was constructed after June 6, 2006 it is a new engine under Subpart ZZZZ. Therefore, to comply with ZZZZ the engine need only comply with 40 CFR 60 Subpart IIII.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The proposed permitting action accounts for less than 0.40 tons per year of Hazardous Air Pollutants.

AIR QUALITY IMPACT ANALYSIS

The construction does not meet the definition of a "major stationary source" pursuant to 45CSR14 and, therefore, an air quality impact (computer modeling) analysis was not required. Additionally, based on the nature of the construction , modeling was not required under 45CSR13, Section 7.

MONITORING OF OPERATIONS

Mellots will be required to perform the following monitoring and recordkeeping associated with this permit application:

* Monitor and record the quantity of raw material throughput.
* Monitor and minimize fugitive emissions.
* Monitor all applicable requirements of 40CFR60 Subparts IIII and OOO.
* Monitor and record the operating hours of the engines.
* All records shall be maintained on site or in a readily available off-site location for a period of at least five (5) years.

RECOMMENDATION TO DIRECTOR

The Mellotts Company request to operate a mineral processing facility located near Martinsburg, Berkeley County, WV meets the requirements of General Permit G40-C and all applicable rules and, therefore, Mellots Company should be granted a General Permit Registration to operate said facility.

Steven R. Pursley, PE
Engineer

11-19-15
November 19, 2015

G40-C074
Mellott Company
Proctor & Gamble Warehouse