west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2965
Plant ID No.:	055-00107
Applicant:	Pounding Mill Quarry Corporation
Facility Name:	Princeton Loadout Facility
Location:	Princeton, Mercer County
NAICS Code:	212319
Application Type:	Construction
Received Date:	July 26, 2012
Engineer Assigned:	Mindy Hendrickson
Fee Amount:	$2,000.00
Date Received:	July 26, 2012
Complete Date:	August 23, 2012
Applicant Ad Date:	August 2, 2012
Newspaper:	*Bluefield Daily Telegraph*
UTM's:	Easting: 492.48537 km Northing: 4136.21805 km Zone: 17
Description:	Applicant proposes the construction of a gravel loadout facility consisting of two (2) open stockpiles, two (2) hoppers, one (1) dump bin, and four (4) belt conveyors. Rail cars will be loaded with crushed rock, with each transporting approximately 7,500 tons. Throughput is expected to reach a maximum throughput of 1,000,000 tons per year.

DESCRIPTION OF PROCESS

Pounding Mill Quarry Corporation (Pounding Mill) proposes the construction and operation of a gravel loadout facility located in Princeton, Mercer County, West Virginia. Pounding Mill currently operates a loadout facility (permit G40-B022A) near the proposed location. This permit will remain active.

Crushed rock (3/4 inch minus) from a local quarry approximately five (5) miles away will be delivered to the loadout facility via public highway and other public, paved roads. The material will be stockpiled at the facility for loading to rail cars.

Approximately 4,000 tons per day of crushed rock will be delivered to the facility and placed into open stockpiles OS-1 and OS-2. From the stockpiles, loaders will transfer the material to each of two (2) 50-ton hoppers H-1 and H-2. Material will then drop to an enclosed belt conveyor BC-1 via a feeder at each hopper. BC-1 will transfer material into a covered 400-ton dump bin DB-1. Material will drop to enclosed conveyor BC-2, then to enclosed conveyor BC-3, and then transferred to radial stacking conveyor BC-4. BC-4 will place material into rail cars. Each rail car will transport approximately 7,500 tons of crushed rock. Pounding Mill will loadout a maximum of 1,000,000 tons of crushed rock per year.

See the following table for description, maximum throughput, control equipment, and maximum storage for all permitted equipment at the Princeton Loadout Facility:

Table 1: Equipment Summary

Equipment ID No.	Description	Installation / Modification Date	Maximum Capacity		Control Device
OS-1	Open Stockpile - 87,000 ft^2 max base area	2012	35,000 tons	500,000 tons/yr	WS
OS-2	Open Stockpile – 87,000 ft^2 max base area	2012	35,000 tons	500,000 tons/yr	WS
H-1	Hopper	2012	50 tons	500,000 tons/yr	WS
H-2	Hopper	2012	50 tons	500,000 tons/yr	WS
DB-1	Dump Bin	2012	400 tons	1,000,000 tons/yr	FE
BC-1	Belt Conveyor	2012	2,000 tons/hr	1,000,000 tons/yr	TC-FE
BC-2	Belt Conveyor	2012	2,000 tons/hr	1,000,000 tons/yr	TC-FE
BC-3	Belt Conveyor	2012	2,000 tons/hr	1,000,000 tons/yr	TC-FE
BC-4	Belt Conveyor	2012	2,000 tons/hr	1,000,000 tons/yr	TC-FE

SITE INSPECTION

A full on site inspection of the existing facility permitted under G40-B022A was performed by Eric Ray of the DAQ Compliance and Enforcement Section on August 25, 2011. The facility was found to be in compliance. Directions from application: From Highway 460, turn north on Locust St. Travel 0.2 miles to State Roud 104/Rogers St. And turn west (left). After approximately 0.3 miles the road will split: take Brick St. Northwest (to the right) a short distance. Then turn north (right) onto S. 2nd St. Turn right after 0.2 miles onto Virginian Industrial Park Road. Follow the road north approximately 0.5 miles to the planned facility.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The Pounding Mill Princeton Loadout Facility will process crushed stone at a maximum rate of 2,000 tons per hour and 1,000,000 tons per year. Emissions were calculated by Marshall Miller & Associates, Inc. on behalf of Pounding Mill.

Fugitive emissions from stockpiles were calculated using emission factor equation from Air Pollution Engineering Manual -Storage Pile Wind Erosion (Active Storage). Water sprays will be utilized to minimize fugitive emissions from the stockpiles.

AP-42 Section 13.2.4 (Miscellaneous Sources: Aggregate Handling and Storage Piles) was used to obtain emission factors for facility transfer points. Belts BC-1, BC-2, BC-3, and BC-4 will utilize full enclosures.

Table 2a: Proposed Emissions (**13-2965**):

Emissions Summary - Pounding Mill Quarry Corporation Princeton Loadout Facility 13-2965	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.93	4.06	0.44	1.91
Fugitive Emissions Total	*0.93*	*4.06*	*0.44*	*1.91*
Point Source Emissions				
Transfer Point Emissions	5.01	2.93	2.37	1.39
Point Source Emissions Total (PTE)	*5.01*	*2.93*	*2.37*	*1.39*
EMISSIONS TOTAL	**5.94**	**6.99**	**2.80**	**3.29**

Table 2b: Existing Princeton Loadout Emissions (**G40-B022A**):

Emissions Summary - Pounding Mill Quarry Corporation Princeton Loadout Facility G40-B022A	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.12	0.50	0.05	0.24
Unpaved Haulroad Emissions	14.09	21.98	2.75	4.29
Fugitive Emissions Total	*14.21*	*22.49*	*2.81*	*4.53*
Point Source Emissions				
Transfer Point Emissions	0.10	0.10	0.10	0.10
Point Source Emissions Total (PTE)	*0.10*	*0.10*	*0.10*	*0.10*
EMISSIONS TOTAL	**14.31**	**22.59**	**2.91**	**4.63**

The facility will have a combined total estimated potential to discharge controlled point source emissions of 3.03 TPY of PM (particulate matter), of which 1.49 TPY are PM10 (particulate matter less than 10 microns in diameter). Refer to the following table for a summary of Pounding Mill's combined emissions:

Table 2c: Combined Facility Emissions (**13-2965 and G40-B022A**)

Combined Emissions Summary - Pounding Mill Quarry Corporation Princeton Loadout Facility G40-B022A and 13-2965	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	1.05	4.56	0.49	2.15
Unpaved Haulroad Emissions	14.09	21.98	2.75	4.29
Fugitive Emissions Total	*15.14*	*26.54*	*3.24*	*6.44*
Point Source Emissions				
Transfer Point Emissions	5.11	3.03	2.47	1.49
Point Source Emissions Total (PTE)	*5.11*	*3.03*	*2.47*	*1.49*
EMISSIONS TOTAL	**20.25**	**29.57**	**5.71**	**7.93**

REGULATORY APPLICABILITY

45CSR7 To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associate Operations

The purpose of this rule is to prevent and control particulate matter air pollution from manufacturing processes and associated operations. The facility is subject to the requirements of this rule because it meets the definition of "Manufacturing Process" found in Section 2.20 of this rule. The facility will need to be in compliance with Subsection 3.1 – no greater than 20% opacity (opacity monitoring, recordkeeping, and reporting requirements are included in permit 13-296); Subsection 4.1 – PM emissions shall not exceed those under Table 45-7A (see paragraph below); Subsection 5.1 – manufacturing process and storage structures must be equipped with a system to minimize emissions (water sprays will be utilized when transferring material to hoppers H-1 and H-2 ; dump bin D-1 will be fully enclosed); Subsection 5.2 – minimize PM emissions from plant premises (water sprays will be utilized).

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of 4,000,000 lb/hr (1,800,000 lb/hr and over), the maximum allowable emission rate is 50 lb/hr of particulate matter. The proposed maximum point source emission rate at the facility is 5.01 lb/hr of particulate matter according to calculated emissions in permit application R13-2965.

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 purpose of this rule is to set forth the procedures for stationary source reporting, and the criteria for obtaining a permit to construct and operate a new stationary source which is not a major stationary source, to modify a non-major stationary source, to make modifications which are not major modifications to an existing major stationary source and to relocate non-major stationary sources within the state of West Virginia.

The applicant is applying for a Rule 13 temporary construction permit for the Princeton Loadout Facility. The facility is subject to the following sections of this rule: reporting requirements, requirements for modifications of stationary sources, demonstrating compliance with stationary sources, public review procedures, and permit application fees. The facility will demonstrate compliance by following all the applicable rules and regulations that apply to the facility. They will also follow the terms and conditions set forth in permit R13-2965. The permittee published a Class I legal advertisement in *Bluefield Daily Telegraph* on August 2, 2012 and submitted an application fee of $1,000.00.

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.

The proposed modification of Southern West Virginia Asphalt, Inc.'s existing aggregate processing facility is <u>not</u> subject to the following state and federal rules:

45CSR16 Standards of Performance for New Stationary Sources

This rule establishes and adopts standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA). The facility is not subject to any federal regulations. Therefore, it is not subject to this rule.

40CFR60 Subpart OOO: Standards of Performance for Nonmetallic Minerals Processing Plant

The facility is NOT subject to 40CFR60 Subpart OOO because the facility does not meet the definition of a nonmetallic minerals processing plant. A Nonmetallic Mineral Processing Plant is defined as "any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals." The proposed facility is a loadout facility that does NOT perform any crushing or grinding operations.

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

In accordance with 45CSR14 Major Source Determination, the proposed gravel loadout facility is not listed in Table 1. The facilities (G40-B022A and 13-2965) will have a combined potential to emit 3.03 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This Princeton Loadout 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 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 Mercer, West Virginia, which is designated as attainment for PM2.5 (particulate matter less than 2.5 microns in diameter). The facility is a minor source and not subject to 45CSR14.

MONITORING OF OPERATIONS

The facility shall monitor facility loadout throughput limits, opacity levels, and water usage. An example form for thecrushed stone loadout throughput limits is included as Appendix A to Permit R13-2965. An example form for the Monthly Opacity Testing is included as Appendix B to Permit R13-2965. An example form for tracking the amount of water applied through the water truck is included as Appendix C to Permit R13-2965. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on-site for at least five (5) years and be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

4.2. Monitoring Requirements

4.2.1. For the purpose of determining compliance with maximum throughput and emission limits set forth in 4.1.1. and 4.1.2., the permittee shall monitor product received (OS-1 and OS-2) and radial stacking conveyor (BC-4) throughput and maintain certified daily records. An example form is included as Appendix A. Such records shall be retained onsite by the permittee for at least five (5) years. Certified records shall be made available to the Director or his duly authorized representative upon request.

4.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§7, the permittee shall conduct visible emission checks and / or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

a. The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course.

b. Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of facility operation and appropriate weather conditions.

c. If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

4.2.3. For the purpose of determining compliance with the requirements set forth in 4.1.4., the permittee shall monitor water usage and maintain certified daily records. An example form is included as Appendix C. Such records shall be retained onsite by the permittee for at least five (5) years. Certified records shall be made available to the Director or his duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in the permit application R13-2965 indicates that compliance with all applicable state rules and federal regulations should be achieved when all proposed control methods are in operation. Therefore, the granting of a construction permit to Pounding Mill Quarry Corporation for the construction of a crushed stone loadout facility located in Princeton, Mercer County, West Virginia, is hereby recommended.

Mindy Hendrickson
Permit Writer

November 2, 2012

Date