

PERMIT BOOK



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DEPARTMENT OF NATURAL RESOURCES

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AUG 13 2014

PERMIT BOOK

Ms. Lina Klein
Environmental Director
Fred Weber, Inc. – Iron Mountain Trap Rock
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: New Source Review Temporary Permit Request - Project Number: 2014-07-026

Installation ID Number: 187-0006

Temporary Permit Number: **082014-006**

Expiration Date: July 29, 2015

Dear Ms. Klein:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to modify the existing ballast plant at Iron Mountain Trap Rock, located in Iron Mountain, Missouri. The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(3).

Iron Mountain Trap Rock is an existing rock-crushing plant located in St. Francois County, which is an attainment area for all pollutants. The installation is a minor source and holds an intermediate operating permit. This project consists of a modification of the existing rock crushing plant at the Iron Mountain Trap Rock site. The proposed modification includes removing a screen from the ballast plant and moving it within the site to previously stockpiled rock for screening in order to address a temporary shortage of product. Along with the screen, the addition of a bin and conveyors will be included. There will be no crushers or generators utilized during this project's operation.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

TABLES

The following permits have been issued to Iron Mountain Trap Rock from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0498-010	Portable to stationary
0299-003	Add equipment
072001-014	Add equipment
012006-008	Add equipment and BMPs
102006-007	Add equipment
102006-007A	Amend emission calculations
082008-012	New portable ballast plant
072009-019	Add conveyors
102006-007B	Amend emission calculations
082008-012A	Extend 2-year limit
082011-005	Portable rock crushing plant to stationary generic equipment

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous year's EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The installation conditioned potential emissions include a voluntary limit of PM₁₀ to less than 15.0 tons per year to avoid the increment modeling. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	^a Conditioned Potential Emissions of the Application	Installation Conditioned Potential Emissions
PM	25.0	N/D	N/D	27.54	N/D
PM ₁₀	15.0	N/D	11.1927	8.47	47.47
PM _{2.5}	10.0	N/D	3.2683	3.09	N/D
SO _x	40.0	N/A	N/D	0.00	N/A
NO _x	40.0	N/A	N/D	0.00	N/A
VOC	40.0	N/A	N/D	0.00	N/A
CO	100.0	N/A	N/D	0.00	N/A
Total HAPs	25.0	N/A	N/D	0.00	N/A

N/D = Not Determined

^aIncludes haul road and storage pile emissions

Table 3: Ambient Air Quality Impact Analysis

Pollutant	NAAQS/RAL ($\mu\text{g}/\text{m}^3$)	Averaging Time	^a Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)	Limited Impact ($\mu\text{g}/\text{m}^3$)	^b Background ($\mu\text{g}/\text{m}^3$)	^c Daily Production Limit (tons/day)
^d PM ₁₀ (same)	150.0	24-hour	5.19	N/A	20.0	14,400
^e PM ₁₀ (separate)	150.0	24-hour	N/A	5.19	86.5	14,400

^aModeled impact at maximum capacity with controls

^bBackground includes 20 $\mu\text{g}/\text{m}^3$ for use of BMPs.

^cLimit based on operation at maximum capacity.

^dSolitary operation or operation with other plants that are owned by Fred Weber, Inc.

^eOperation with other plants that are not owned by Fred Weber, Inc.

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the screening equipment were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004. The controlled emission factors were used because the inherent moisture content of the crushed rock is at least 1.5 percent (%) by weight.

The engine emissions were not evaluated for this review as the engines at this site are classified as a nonroad engine. 40 CFR 63 Subpart ZZZZ, "National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" and 40 CFR 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" do not apply. However, if the plant were to remain in one location for longer than 12 consecutive months, it would not be in compliance with this permit because engine emissions were not evaluated. It may also not be in compliance with MACT ZZZZ and NSPS III. The nonroad engine is subject to further applicable requirements in 40 CFR 89 and 40 CFR 1039 which are outside the purview of this program.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. A 90% control efficiency for PM and PM₁₀ and a 40% control efficiency for PM_{2.5} were applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 1.5% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 3. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the NAAQS or RAL for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant's production is limited to ensure compliance with the standard.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Iron Mountain Trap Rock shall demonstrate compliance with the NAAQS.

- When no other plants are located at Iron Mountain Trap Rock, Fred Weber, Inc. is exempt from calculating the daily impact of this plant.
- When plants that are owned by Fred Weber, Inc., which are referred to as same owner plants, are located at the site, Fred Weber, Inc. must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment A.
- When plants that are not owned by Fred Weber, Inc., which are referred to as separate owner plants, are located at the site, Fred Weber, Inc. must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Fred Weber, Inc. that are operating at the site. This total is limited to not exceed the NAAQS. Fred Weber, Inc. will limit the total impact of all plants they own and operate at the site to 43.5 µg/m³ when any plants they do not own are located at the site. Iron Mountain Trap Rock is not permitted to operate with any plant that is not owned by Fred Weber, Inc. that has a separate owner background greater than 86.5 µg/m³. During this scenario, Iron Mountain Trap Rock shall use Attachment B to demonstrate compliance with the NAAQS.

APPLICABLE REQUIREMENTS

Iron Mountain Trap Rock shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.045 *Open Burning Requirements*, 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.165 *Restriction of Emission of Odors*, and 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*.

Ms. Lina Klein
Page 6

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon verbal request. If you have any questions regarding this determination, please do not hesitate to contact Bryce Mihalevich at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 75 1-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM


Kyra L. Moore
Director

KLM:bml

c: PAMS File: 2014-07-026
Southeast Regional Office