



October 18, 2023

Mr. Steve McCaslin
Director, Engineering Services Division
Bureau of Air Quality
SC DHEC
2600 Bull Street
Columbia, South Carolina, 29201

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BAQ PERMITTING

SUBJECT: **Vulcan Construction Materials, LLC - Orangeburg Quarry**
Eutawville, SC
Construction Permit Application

Air Permit # 1860-0165

Dear Mr. McCaslin:

Vulcan Materials Company, Orangeburg Quarry located in Eutawville, SC plans to install a portable plant that will include truck unloading, 3 crushers, 2 screens, and four conveyors that will be powered by a previously exempt CAT C9 248kW, 300hp Tier 3/Stage IIIA engine. Applicable construction permit application forms are provided in Appendix A, process flow is presented in Appendix B, emission calculations and air quality modeling analysis are presented in Appendix C. The proposed equipment is discussed in detail below.

Proposed Equipment:

Equipment Description	Equipment ID	Capacity (TPH)	Emission Control System
Truck Unloading	TU-1	600	Wet Suppression (WS)
Crusher #1	PC1-P	600	WS
Crusher #2	PC2-P	350	WS
Crusher #3	PC3-P	125	WS
Screen #1	S1-P	600	WS
Screen #2	S2-P	350	WS
Conveyor #1	C1-P	225	WS
Conveyor #2	C2-P	175	WS
Conveyor #3	C3-P	350	WS
Conveyor #4	C4-P	100	WS

Emissions factors and calculations for all equipment to be installed are shown in Appendix C.

As shown in Tables 1-2 (Appendix C), the emissions at the facility are as follows:

Pollutant	Proposed Potential Uncontrolled		Proposed Potential Controlled	
	(PPH)	(TPY)	(PPH)	(TPY)
TSP	32.13	140.71	3.50	15.33
PM ₁₀	11.79	51.64	1.32	5.80
PM _{2.5}	1.31	5.72	0.17	0.73

Regulatory Discussion:

- **Regulation 61-62.1 Section II(E) Synthetic Minor Construction Permits**
The facility will be in compliance with the enforceable limits set forth by this standard with the proposed facility modifications.
- **Regulations 61-62.5 Standard No. 1 - Emissions from Fuel Burning Operations**
There are no fuel burning operations at the subject facility.
- **Regulation 61-62.5 Standard No. 2 Ambient Air Quality Standards**
The estimated particulate emission rates after control for each emission point are less than 1.14 lb/hr, and are therefore exempt from the modeling demonstration as shown in Appendix C, Table 6. The Vulcan facility is in compliance with Standard No. 2.
- **Regulation 61-62.5 Standard No. 3 - Waste Combustion and Reduction (State Only)**
There are no waste combustion or reduction sources at the subject facility.
- **Regulation 61-62.5 Standard No. 4 Emissions from Process Industries**
The facility will be in compliance with the limits set forth by this standard with the proposed facility modifications.
- **Regulation 61-62.5 Standard No. 5 Volatile Organic Compounds**
The facility does not contain one of the processes subject to this standard.
- **Regulation 61-62.5 Standard No. 5.2 Nitrogen Oxides Lowest Achievable Emission Rate**
There are no fuel burning operations at the subject facility. The exempt engine is not a stationary source.

- **Regulation 61-62.5 Standard No. 7 Prevention of Significant Deterioration**

This facility is not specified as one of the 28 specific industry types and is in the other industry type category. PSD applicability is pollutant specific and is based on the potential to emit considering federally enforceable air pollution controls and/ or federally enforceable operating conditions (i.e., emission limits, production limits, etc.). With modifications, the Orangeburg Quarry has the potential to emit less than 250 tpy of PSD pollutants. Because the potential to emit of any PSD pollutant is less than 250 tpy this regulation does not apply.

The facility will be located in Orangeburg County, which has a Minor Source Baseline Date for PM₁₀ of 05/23/1980 and a Minor Source Baseline Date for PM_{2.5} of 03/28/2012. Where the minor source baseline date has been set for a pollutant, any increase in emissions from a new or modified emission source must comply with the Standard 7 increment(s) for that pollutant and the facility must submit an analysis that demonstrates emissions increases caused by the facility will not cause an increase in pollutant concentration above the Standard 7 increment(s). SCDHEC's "Guidance Concerning Prevention of Significant Deterioration (PSD) Ambient Air Increments" document available on SCDHEC's website released 2/27/2017 states that; SCDHEC will no longer require that facilities include an air quality analysis for PSD increments in permit applications for those pollutants that do not trigger PSD permit action. Since the facility does not trigger PSD permit action, a Standard 7 increment modeling analysis has not been submitted.

- **Regulation 61-62.5 Standard No. 7.1 Nonattainment New Source Review**

The facility is not located in a non-attainment area, so this standard does not apply.

- **Regulation 61-62.5, Standard 8 - Toxic Air Pollutants (TAPs) (State Only)**

No Standard 8 pollutants requiring a compliance demonstration will be emitted.

- **Regulation 61-62.63 - National Emission Standards for Hazardous Air Pollutants: 112(g) (June 28, 1998)**

This regulation is an interim standard that applies to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP) where the EPA has not promulgated a MACT standard. The engine is not a stationary source; therefore not subject to Subpart ZZZZ.