



**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**APPLICANT**

The Quikrete Companies, Inc.  
7000 Progress Drive  
Punta Gorda, Florida 33982

Greencore Ortona Plant-790  
Facility ID No. 0430025

**PROJECT**

Project No. 0430025-004AC  
Application for Minor Source Air Construction Permit  
Minor Revision – Relocation of six (6) EXEMPT Silos and one (1) EXEMPT Plant Dust Collection System  
Baghouse to outside of Process Building

**COUNTY**

Glades, Florida

**PERMITTING AUTHORITY**

Florida Department of Environmental Protection  
Engineering and Permitting Section  
South District Office  
2295 Victoria Avenue  
Fort Myers, FL 33901  
[SouthDistrict@dep.state.fl.us](mailto:SouthDistrict@dep.state.fl.us)

December 2, 2014

## **1. GENERAL PROJECT INFORMATION**

### **Air Pollution Regulations**

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

### **Glossary of Common Terms**

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

### **Facility Description and Location**

The Quikrete Companies, Inc. facility has six (6) EXEMPT silos, one (1) EXEMPT plant dust collection baghouse and a rotary drum sand dryer with associated 16,000 acfm baghouse (EU-001) that are to be located outside of the process building. There are conveyors, collection hoppers and bagging systems that are enclosed inside the process building.

The EXEMPT silos include two (2) sand silos filled by bucket elevator and gravity feed from a distributor hopper, and four (4) dry ingredient silos with dust collectors that are filled pneumatically from bulk trucks. (The silos emissions are 0.21 TPY). The EXEMPT plant dust collection baghouse (emissions of 3.4 TPY) has a negative fan and collects residual dust from four (4) pickup points over the bagging machines which are located in the building.

The rotating sand dryer and 16,000 acfm baghouse (EU-001) are NOT exempt and have PM emissions computed as 9.8 TPY. This emission unit is subject to NSPS requirements of 40 CFR Part 60, Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries. The dryer is fired by No. 2 fuel oil or LPG.

This is non-Title V Source, which is categorized under Standard Industrial Classification Code No. 3299. The facility is located in Glades County at 8725 Florida Highway 78 in Moore Haven, Florida. The UTM coordinates of the existing facility are Zone 17, 470.0 km East, and 2966.0 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

### **Revision Portion Regulatory Categories**

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

## Project Description

The original facility design had four (4) dry ingredient silos, two (2) sand silos and the plant dust collection system (baghouse) located inside the process building. (Ref. 0430025-002-AC). Due to building final roof design and cost analysis, the final construction design places these items outside the building.

## Processing Schedule

11/04/2014 Received the application for a minor source air pollution construction permit revision. (Revises Air Construction Permit No. 0430025-002-AC)

## 2. PSD APPLICABILITY

### General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO<sub>x</sub>); sulfur dioxide (SO<sub>2</sub>); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM<sub>10</sub>); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H<sub>2</sub>S); total reduced sulfur (TRS), including H<sub>2</sub>S; reduced sulfur compounds, including H<sub>2</sub>S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO<sub>2</sub> and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m<sup>3</sup>, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### PSD Applicability for Project

Although the total facility consists of silos, dust collectors, baghouses, hoppers, conveyors, bagging operation, bucket elevator, and rotary drum sand dryer inside a building, this project only addresses the relocation of the four (4) exempt silos and plant dust collection baghouse to a location outside of the process building.

As provided in the application, the following table summarizes potential emissions and PSD applicability for the total facility project.

Table A. Potential Emissions for TOTAL facility (Tons/Year) and PSD Applicability

Pollutant	(Total Facility) Potential Emissions (TPY)	Significant Emissions Rate (TPY)	Subject To PSD?
CO	10.1	100	No
NO <sub>x</sub>	17.5	40	No
PM/PM <sub>10</sub>	13.41	25/15	No
SO <sub>2</sub>	24.8	40	No
VOC	1.1	40	No

As shown in the above table, total project emissions will not exceed the PSD significant emissions rates; therefore, the project is not subject to PSD preconstruction review.

### 3. APPLICATION REVIEW

#### Discussion of Emissions

The PM emissions for the Silos (loading) is 0.21 ton/yr of PM and 0.07 ton/yr of PM10. = < 5 tpy = exempt

The PM emissions of the Plant Dust Collection System is 3.4 ton/yr. = <5 tpy = exempt.

The PM emissions for the Rotating Sand Dryer and associated 16,000 acfm Baghouse (EU-001) is 9.8 tpy (includes PM from combustion) and this is subject to NSPS- 40 CFR Part 60, Subpart UUU, Standards of Performance for Calciners and Dryers in Mineral Industries. Particulate matter emissions not to exceed 0.057 gram/dry standard cubic meter. Visual emissions (VE) is not to be greater than 10 percent opacity.

The Rotating Sand Dryer burner is fired by No.2 fuel oil or LPG.

LPG - Emissions (ton/yr.)

NO <sub>x</sub> @ 17.45	CO @ 10.1	PM @ 0.94	VOC @ 1.1	SO <sub>2</sub> @ 0.02
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NO. 2 Fuel Oil – Emissions (ton/yr.)

NO <sub>x</sub> @ 17.5	CO @ 4.4	PM @ 1.7	SO <sub>2</sub> @ 24.8	TOC @ 0.49
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#### Other Draft Permit Requirements

For reference - The Rotary Sand Dryer (Emission Unit 001) is fired by propane or #2 fuel oil. It is permitted under Air Construction permit No. 0430025-002-AC, and is subject to NSPS requirements of 40 CFR Part 60, Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.

**4. PRELIMINARY DETERMINATION**

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Carter B. Endsley, P.E. is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902.