TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

St. Marks Powder, Inc.
Post Office Box 222
St. Marks, Florida 32355

St. Marks Powder
Facility ID No. 1290003

PROJECT

Project No. 1290003-019-AC
Application for Title V Source Air Construction Permit
Project Name: Reinstate Compliance Test Requirements

COUNTY

Wakulla, Florida

Permitting and Compliance Authority:

State of Florida
Department of Environmental Protection
Northwest District

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November 19, 2013

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

St. Marks Powder is an existing propellant manufacturing plant, which is categorized under Standard Industrial Classification Code No. 2892. The facility is located at 7121 Coastal Highway, Crawfordville, Wakulla County, at the intersection of U.S. 98 and S.R. 36. The UTM coordinates of the existing facility are Zone 16, 767.6 km East and 3342.1 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).

Facility 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 a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is 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

Emissions will not change as a result of this project. This project modifies air construction permit No. 1290003-016-AC, issued January 13, 2011, and authorizes reinstatement of the compliance testing requirements specified in the existing Title V permit 1290003-015-AV, which requires VE and VOC testing once every five years for the coaters in emissions unit 012, pursuant to Rule 62-297.310(7)(a)3., F.A.C. This air construction permit is being processed concurrently with the Title V air operation permit renewal project 1290003-018-AV, which renews the existing Title V air operation permit 1290003-015-AV.

Processing Schedule

October 25, 2013 Received the application for a Title V source air pollution construction permit.

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_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; 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_2 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 $\mu g/m^3$, 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.

<u>PSD Applicability for Project</u>

The facility is considered a major stationary source with respect to PSD, because it is a chemical process plant that has the potential to emit 100 tons per year or more of the regulated air pollutants VOC and SO_2. However, this project is not a major modification under PSD regulations, because the project does not result in any increases in actual or potential emissions at this facility. Based on these facts it is determined that the project is not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Application Fee

This is a Title V facility. No fee is due.

Discussion of Emissions

This project will have no effect on emissions from this facility. The existing Title V air operation permit 1290003-015-AV requires VE and VOC tests once every five years for the North Coater and South Coater (EU 012), pursuant to Rule 62-297.310(7)(a)3., F.A.C. Construction Permit 1290003-016-AC, issued on January 13, 2011, authorizes reactivation of VOC-based surface coating at the North Sweetie Barrel and requires VE and VOC testing each year for North Sweetie Barrel, pursuant to Rule 62-297.310(7)(a)4., F.A.C. Post-project testing at North Sweetie Barrel showed the increase in potential emissions, resulting from reactivation of surface coating at this unit, to be much less than the significant emission rate for PSD applicability.

Emissions from the coaters are controlled by venturi scrubbers and packed columns. The compliance assurance monitoring (CAM) plan has set parameters for the scrubbers which ensure compliance. Continuous monitoring of the air flow differential pressure and scrubbing water flow rate for the three scrubbers (one each for the North Coater, South Coater, and North Sweetie Barrel operations) will ensure continuous compliance with VOC emission limits. Both the venturi scrubber and packed bed scrubber are operated whenever VOC based coatings are being applied to the propellant. A VOC removal of efficiency of 80% (or more) is needed to demonstrate compliance, and can be expected at all allowed operating conditions.

State Requirements

This Title V source is not subject to any unit specific rules. A compliance assurance monitoring (CAM) plan is required for the South Coater and the North Sweetie Barrel. The North Coater operates under an approved O&M Plan.

Federal NSPS Provisions

None.

Federal NESHAP Provisions

None.

Other Draft Permit Requirements

N/A

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. Howard Ard 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 850.595.0622 or howard.ard@dep.state.fl.us.