



**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

APPLICANT

Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

Riverview Facility

Facility ID No. 0570008

PROJECT

Project No. 0570008-073-AC
Application for Minor Air Construction Permit
Project Name: Replacement of the IPA tower at SAP No. 8

COUNTY

Hillsborough County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Management
Southwest District Office
Temple Terrace, Florida 33637-7600

11/19/2012

Prepared by Quaid Noor

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.

I. Facility Description:

This facility consists of several industrial processes that convert insoluble rock containing phosphorus ore into a soluble form suitable for agricultural use. The processes consist of one phosphoric acid plant (two trains), two ammoniated phosphate (AP) plants, three sulfuric acid plants, one material handling system, one auxiliary boiler, two animal feed plants, a molten sulfur storage and handling system and emergency compression ignition (CI) reciprocating internal combustion engines (RICE).

The following activities are undertaken to produce fertilizer with water-soluble phosphorus and nitrogen values.

1. Phosphate rock delivered by railcar is unloaded, conveyed to storage, and ground by rotary ball mills.
2. Molten sulfur is burned under controlled stoichiometry to produce sulfuric acid.
3. Ground phosphate rock is acidulated with sulfuric acid, producing wet process phosphoric acid and byproduct calcium sulfate (gypsum) with release of fluoride compounds, including HF.
4. The phosphoric acid, which is approximately 30% by weight phosphorus expressed as P_2O_5 , is sent to evaporators for concentration to 54%.
5. Ammoniated phosphate (AP) are produced by combining blended 54% and 30% phosphoric acid with ammonia in various mole ratios to produce mono-ammonium phosphate (MAP) or di-ammonium phosphate (DAP).
6. AP products are conveyed to dry storage buildings by trip conveyors, dropped to storage piles.
These storage buildings store, handle and loadout AP product to conveyors and associated transfer

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equipment, such as bulk toters, feed and loadout elevators, mini bin system, and ribbon blender to load ships, barges, railcars, trucks and containers.

Also included in this Permit are miscellaneous unregulated/insignificant emissions units and/or activities.

II. Project Description:

A. Applicant:
Larry Simpson, Plant Manager
Mosaic Fertilizer, LLC - Riverview Facility
13830 Circa Crossing Drive
Lithia, FL 33547

B. Professional Engineer:
Rama Iyer, P.E.
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

C. Project Location:
8813 US Highway 41 South
Riverview, FL 33578

D. Project Summary:

This project is to replace the IPA tower at SAP No. 8, Emissions Unit (EU) ID No. 005. The project also includes minor maintenance related tasks such as repair or replacement of pumps, valves, piping, ducting and dampers, etc., as further described in the permit.

E. Application Information:
Application Received on: October 08, 2012
Application Complete on: October 08, 2012

III. Rule Applicability

This project is subject to the preconstruction review requirements of Chapter 403, Florida Statutes and Chapters 62-204 through 62-297, Florida Administrative Code (F.A.C.), as indicated below.

Subject to:	Y/N	Comments
Rule 62-210.300, F.A.C. - Permits Required	Y	Subject to general permitting requirements
Rule 62-212.400, F.A.C. - Prevention of Significant Deterioration	N	Facility is a PSD major source but this project does not trigger PSD review
Rule 62-296.320(4), F.A.C. - General Particulate Emission Limiting	N	Sulfuric Acid Plant is not a source of particulate matter (PM) emissions

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PSD Applicability Analysis

Pollutant	Baseline Actual Emissions (TPY)	Projected Actual Emissions (TPY)	Projected Actual Minus Baseline Actual Emissions (TPY)	Significant Emissions Rate (TPY)	PSD Required? Y/N
SO ₂	1160.2	1160.2	0	40	N
SAM	13.8	13.8	0	7	N

Note: Baseline actual calculations are based on Oct-06 to Sept-08 for SO₂ and Jan-04 to Dec-06 for SAM operation years.

V. Conclusions

The emission limits proposed by the applicant will meet all of the requirements of Chapters 62-204 through 297, F.A.C.

The General and Specific Conditions listed in the proposed permit (attached) will assure compliance with all the applicable requirements of Chapters 62-204 through 297, F.A.C.

VI. 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. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection Air Resource Management, Southwest District 13051 North Telecom Parkway, Temple Terrace, Florida 33637-7600.

Pursuant to Section 403.087, Florida Statutes and Section 62-4.070, Florida Administrative Code, the Department hereby gives notice of its intent to issue a permit to construct the aforementioned air pollution source in accordance with the draft permit and its conditions as stipulated (see attached).