TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

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

Mosaic Green Bay – A part of Mosaic Bartow Facility

Facility ID No. 1050046

PROJECT

Project No. 1050046-030-AC
Application for Minor Air Construction Permit
Project Name: Installation of a new boiler

COUNTY

Polk County, Florida

PERMITTING AUTHORITY

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

March 14, 2011

Prepared by Quaid Noor

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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. Project Description

A. Applicant:

Mr. Gary N. Davis, Vice President, Phosphate Operations
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

B. Professional Engineer:

Mr. Rama Iyer, P.E.
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

C. Project Location:

The new boiler will be located at Mosaic Green Bay – A part of the Mosaic Bartow Facility, 4390 CR 640 West, Bartow, FL 33830

D. Project Summary:

The applicant proposes to install a new natural gas fired 75 mmBtu/hr boiler (new EU 073) to provide heating of the water in the reverse osmosis (RO) plant to obtain optimal performance, as further described in the permit.

E. Application Information:

Application Received on: 12/03/2010
Additional Information Requested on: 12/27/2010
Additional Information Received on: 01/31/2011
Application Complete on: 01/31/2011

II. 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. - Project Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements, F.A.C.	Y	Not exempt from general permitting requirements.
Rule 62-212.400, F.A.C. - Prevention of Significant Deterioration	N	Facility is a PSD major facility but this project does not trigger PSD review
Rule 62-296.320(4), F.A.C. - General Particulate Emission Limiting Standards	Y	Not subject to process weight table. Not considered to be a significant source of unconfined PM emissions, but fugitive dust rule still applies.
Rules 62-296.320(1) and (2), F.A.C. - General Pollutant Emission Limiting Standards (VOCs and Odor)	N	Reverse Osmosis is not a source of VOC and potential source of odors.
Rule 62-296.400, F.A.C. - Stationary Source Emission Standards	Y	Subject to Rule 62-296.406, F.A.C.
Rule 62-296.500, F.A.C. - Reasonably Available Control Technology (VOC)	N	Source is not in a VOC RACT area.
Rule 62-296.700, F.A.C. - Reasonably Available Control Technology (PM)	N	This is a new source, therefore not subject to PM RACT rule.
Rule 62-204.800, F.A.C.- Standards of Performance for New Stationary Sources (NSPS)	Y	New boiler, EU 073, is subject to 40 CFR 60 Subpart Dc – Standards of performance for small industrial-commercial-institutional steam

Subject to:	Y/N	Comments
		generating units as it applies to natural gas and distillate # 2 oil fired boilers.
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants (HAPs) (NESHAPS 40 CFR 61)	N	There is no applicable source category.
Rule 62-204.800, F.A.C. National Emission Std for HAPs for Source Categories a.k.a. MACT (NESHAPS – 40 CFR 63)	Y*	New boiler, EU 073, is subject to 40 CFR 63 Subpart DDDDD – National Emission Standards for hazardous air pollutants for industrial, commercial and institutional boilers and process heaters
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution	Y	Facility is a Title V source
Rule 62-297.310, F.A.C. - General Compliance Test Requirements, F.A.C.	Y	VE testing is required for new boiler, EU No. 073.

*EPA Administrator signed the final rule 40 CFR 63, Subpart DDDDD, on 02/21/2011, and EPA is submitting it for publication in the Federal Register (FR). It has not been published yet. This subpart will be attached to the Title V permit at the time of next Title V Revision.

III. Summary of Emissions

Pollutant	EU No. and brief description	Potential Emissions, tpy (Natural Gas Fired)*	Potential Emissions, tpy (Distillate Oil Fired)*
PM/PM_{10}	073 – NG fired 75 mmBtu/hr boiler	2.45	0.17
VOC	073 – NG fired 75 mmBtu/hr boiler	1.75	0.02
NO_X	073 – NG fired 75 mmBtu/hr boiler	10.3	1.72
SO_2	073 – NG fired 75 mmBtu/hr boiler	0.19	0.61
CO	073 – NG fired 75 mmBtu/hr boiler	27.0	0.43

*Note: (a) Potential boiler emissions are based on AP42/FIRE emissions factors

(b) Potential emissions due to natural gas firing is based on 8,760 hours/year and due to distillate oil firing is based on 400 hours/year.

Allowable emissions

Visible emissions (VE) from the boiler are limited to 20% opacity, except for one six-minute period per hour during which the opacity shall not exceed 27%.

PSD Applicability

Pollutant	Baseline Actual Emissions (TPY)	Project Actual Emissions (TPY)	Project Actual Minus Baseline Actual Emissions (TPY)	Significant Emissions Rate (TPY)	PSD Required? Y/N
PM/PM_{10}	0	2.45	2.45	25/15	NO
SO_2	0	0.61	0.61	40	NO
NO_X	0	10.3	10.3	40	NO
CO	0	27.0	27.0	100	NO
VOC	0	1.75	1.75	40	NO

IV. 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.

V. 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).