TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

JDC Development, LLC
3200 CR 630 W
Ft. Meade, FL 33841

Ft. Meade

Facility ID No. 1050435

PROJECT

Project No. 1050435-001-AC
Application for Minor Air Construction Permit
Project Name: Construction of a phosphoric acid production facility

COUNTY

Polk County, Florida

PERMITTING AUTHORITY

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

August 25, 2011

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. Project Description:

A. Applicant:

Theodor P. Fowler, President
JDC Development, LLC
3200 CR 630 W, Ft Meade, FL 33841

B. Professional Engineer:

Lawrence M. Handman, P.E.
HTH Inc.
101 Rt. 130 Madison Building, Suite 306
Cinnaminson, NJ 08077

C. Project Location:

3200 County Road 630 West
Ft. Meade, FL 33841

D. Project Summary:

This project is for the construction of a brand new phosphoric acid production facility utilizing improved hard process (IHP). The proposed facility will be a semi-commercial plant that will make technical grade phosphoric acid. Unlike the wet-process phosphoric acid process line, the proposed facility will not produce phosphogypsum as a by-product. Instead, a light weight co-product pellet (aggregate) will also be produced and marketed for various use. The proposed facility will utilize a ported, rotary kiln to produce gaseous phosphorus pentoxide from a mix of phosphate ore, petroleum coke and clay. The gaseous phosphorous pentoxide is then hydrated with water and dilute phosphoric acid to make phosphoric acid at a maximum concentration of about 70-76% (by weight) P_2O_5 content, as further described in the permit.

E. Application Information:

Application Received on: 04/19/2010
Additional Information Requested on: 05/17/2010
Additional Information Received on: 10/14/2010
Additional Information Requested on: 11/10/2010
Additional Information Received on: 01/10/2011
Additional Information Requested on: 02/17/2011
Additional Information Received on: 04/04/2011
Additional Information Received on: 6/16/2011
Additional Information Received on: 7/11/2011
Additional Information Received on: 7/22/2011
Additional Information Received on: 8/16/2011
Additional Information Received on: 8/18/2011

Application Complete: 08/18/2011

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	This facility is a synthetic non- PSD major source
Rule 62-296.320(4), F.A.C. - General Particulate Emission Limiting Standards	Y	Phosphate material handling system is a source of particulate matter (PM) emissions.
Rules 62-296.320(1) and (2), F.A.C. - General Pollutant Emission Limiting Standards (VOCs and Odor)	N	Phosphate material handling system operations are not a significant source of VOCs.
Rule 62-296.400, F.A.C. - Stationary Source Emission Standards	Y	The facility is subject to Rule 62-296.403, F.A.C. – Phosphate Processing
Rule 62-296.500, F.A.C. - Reasonably Available Control Technology (VOC)	N	Facility is not in Air Quality Maintenance area for ozone.
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. *Note: This facility in not located in the area of influence of an air quality maintenance area.*
Rule 62-204.800, F.A.C. - Standards of Performance for New Stationary Sources (NSPS)	Y	Subject to 40 CFR 60, Subpart UUU-Standards of Performance for calciners and dryers in mineral industries, and Subpart NN-Standards of Performance for Phosphate Rock Plants.
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants (NESHAPS – 40 CFR 61)	N	There is no applicable source category
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants for Source Categories a.k.a. MACT (NESHAPS – 40 CFR 63)	N	There is no applicable source category
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution	N	The facility is a synthetic non-Title V source
Rule 62-297.310, F.A.C. - General Compliance Test Requirements, F.A.C.	Y	PM, F & VE testings are required for E.U. Nos. 001, 003, and 004. PM & VE testing is required for EU No. 002. SO_2 testing is required for EU 004 (Initial).

{Note: NSPS Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants is not applicable due to clay processing rate being less than 10 tons per hour.}

III. Summary of Emissions

Pollutant	EU No. and brief description	Potential Emissions lbs/hr.	tpy	Allowable Emissions
PM	001, Raw material drying	1.65	3.10	0.06 lb/ton* of raw material and 0.025 gr/dscf
	002, Raw Material Grinding & Mixing	0.31	0.58	0.012 lb/ton of raw material
	003, Balling Circuit	0.86	3.20	0.06 lb/ton* of raw material and 0.025 gr/dscf
	004, Acid Production	2.97	11.2	0.23 lb/ton* of feed material and 0.04 gr/dscf
	Exempt: Process Burners, Raw Material Unloading & Storage, Raw Materal Handling, Generators and Aggregate Cooling & Handling, Truck Traffic and Storage Pile Erosion	n/a	5.50	n/a
PM	Total	n/a	23.6	n/a
NOx	004, Acid Production	n/a	88.5	88.5 tpy
	Exempt: Process Burners & Generator	n/a	5.29	n/a
NOx	Total	n/a	94.0	
F	001, Raw material drying	n/a	0.28	0.06 lb/ton of P_2O_5 input
	003, Balling Circuit	n/a	0.28	0.06 lb/ton of P_2O_5 input
	004, Acid Production	n/a	2.10	0.37 lb/ton of P_2O_5 input
	Total	n/a	2.66	
SO_2	005, Acid Production	2.17	8.20	n/a
CO	Exempt: Process Burners	n/a	3.94	n/a
	004, Acid	n/a	2.28	n/a

Pollutant	EU No. and brief description	Potential Emissions lbs/hr. tpy	Allowable Emissions
	Production - Coke Combustion		
	Total	6.2	
VE	001, Raw Material Drying		10% Opacity
	002, Raw Material Grinding & Mixing		0% opacity
	003, Balling Circuit		10% Opacity
	004, Acid Production		10% Opacity

{Note: The 0.06 lb/ton and 0.23 lb/ton limit are more stringent limit than the 0.025 gr/dscf and 0.04 gr/dscf respectively. These are equivalent to 3.10 tpy, 3.20 tpy and 11.20 tpy of PM emissions for E.U. Nos. 001, 003 and 004 respectively.}

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).