TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

White Springs Agricultural Chemicals, Inc.
15843 SE 78th Street
White Springs, FL 32096

Phosphate Mine and Chemical Production Facility
ARMS Facility ID No. 0470002
E of SR 137, E of US 41, N of White Springs

PROJECT

Project No. 0470002-078-AC
Application for Air Construction Permit
"D" Sulfuric Acid Plant Drying Tower Acid Cooler Replacement

COUNTY

Hamilton

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Northeast District Office
Air Resources Section
7625 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7590

May 01, 2012

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects 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 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 activities. 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.

Facility Description and Location

The applicant operates an existing Phosphate Mine and Chemical Manufacturing Facility (Standard Industrial Classification No. 2874) located E of SR 137, E of US 41, N of White Springs, in Hamilton County, Florida 32096. The UTM coordinates are Zone 17: 328.3 km East; 3368.8 km North.

This facility processes phosphate rock to produce several products at the Suwannee River/Swift Creek Complex (two plants). The facility consists of one rock grinder, two phosphoric acid plants, two defluorinated phosphate (DFP) plants, one dical process, two diammonium phosphate (DAP) plants, one monoammonium (MAP)/DAP storage building, one MAP/DAP screen/shipping building, four sulfuric acid plants, two phosphoric acid filters, four superphosphoric acid plants, one green superphosphoric plant, the Swift Creek Mine (SCM) rock dryer, and one acid clarification plant. The facility also has storage silos associated with the Swift Creek Mine and the DFP plant.

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate 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

The applicant has requested the authorization to replace the deteriorated drying tower acid cooler for the existing "D" Sulfuric Acid Plant. No increase in emisions is expected from the modification. Pursuant to Rule 62-212.400, F.A.C., White Springs Agricultural Chemicals, Inc. provided information to show that the project will not exceed the significant emissions rates that require preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

This project will modify the following emissions unit:

Facility ID No. 0470002	
ID No.	**Emission Unit Description**
022	"D" Sulfuric Acid Plant

Proposed Work

Drying Tower Acid Cooler: The applicant has requested the authorization to replace the Drying Tower Acid Cooler for the "D" Sulfuric Acid Plant.

Processing Schedule

Upon permit issuance:

- Install drying tower acid cooler for the "D" Sulfuric Acid Plant.

General PSD Applicability

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. A PSD applicability review is required in areas currently in attainment with the state and federal AAQS or areas otherwise designated as "unclassifiable". A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit: 5 tons per year or more of lead; 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 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.). Projects at existing or new major stationary sources are subject to PSD preconstruction review. In addition, proposed projects at existing minor sources are subject to PSD preconstruction review if potential emissions *from the proposed project* will exceed the PSD major stationary source thresholds.

Once a project becomes subject to PSD preconstruction review, each PSD pollutant is reviewed for PSD applicability based on emissions thresholds known as 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 (F); 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 nonmethane organic compounds (NMOC); and mercury (Hg). Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant 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.

PSD Applicability for Project

The following table summarizes the expected changes in actual emissions from the Drying Tower Acid Cooler Replacement project based on the application received April 12, 2012.

Table A. Annual Emissions Summary and PSD Applicability

Pollutant	"D" Sulfuric Acid Plant					
	Baseline Actual Emissions	**Projected Actual Emissions**	**Projected Increases**	**PSD Significant Emissions Rate**	**Demand Growth Excludable**	**Subject to PSD?**
SO_2	932.1	932.1	0	40	N/D	No
NO_X	37.6	37.6	0	40	N/D	No
SAM	16.7	16.7	0	10	N/D	No

TABLE 1 - BASELINE ACTUAL EMISSIONS
"D" SULFURIC ACID PLANT - WHITE SPRINGS AGRIULTURAL CHEMICALS, INC.

SAP "D" YEAR	Actual 12-month Production (1)	Tested Process Rate (1) TPH	Tested Emission Rate SO2 lb/ton	Tested Emission Rate SAM lb/ton	Emission Rate NOX lb/ton	Annual Emission Rate (2) SO2 tons/yr	Annual Emission Rate (3) SAM tons/yr	Annual Emission Rate (3) NOX tons/yr
2004	472089	92.5	3.00	0.04	0.12	708.1	9.4	28.3
2005	597139	91.6	2.40	0.08	0.12	716.6	23.9	35.8
2006	618298	88.3	2.90	0.02	0.12	896.5	6.2	37.1
2007	636672	90.0	3.04	0.03	0.12	967.7	9.6	38.2
2008	300005	89.3	2.56	0.08	0.12	384.0	12.0	18.0
2009	214234	90.5	3.13	0.03	0.12	335.3	3.2	12.9
2010	258781	86.6	3.12	0.09	0.12	403.7	11.6	15.5
2011	611814	90.2	3.12	0.03	0.12	954.4	9.2	36.7
2yr Avg.						2006, 2007	2004, 2005	2006, 2007
Baseline	Emissions					932.1	16.7	37.6

Notes:
1. Representative production and stack test results previously submitted to FDEP.
2. Calculated based on annual production rate and tested emissions.
3. NOx emissions based on EF commonly used in the industry.

TABLE 2 - FUTURE ACTUAL EMISSIONS
D SULFURIC ACID PLANT - WHITE SPRINGS AGRIULTURAL CHEMICALS, INC.

EMISSIONS DESCRIPTION	"D" SAP SO2 tpy	"D" SAP SAM tpy	"D" SAP NOX tpy
Projected Actual Emissions (1)	932.1	16.7	37.6
Exclusion for Demand Growth (2), and	ND	ND	ND
Unit Capable of Accomodating (3)	ND	ND	ND
Baseline Actual Emissions (4)	932.1	16.7	37.6
Net Combined Emissions Increase (1)	0	0	0
PSD Significant Level	40	10	40
PSD Review Required?	NO	NO	NO

NOTES:
(1) The proposed project is not expected to result in an emissions increase.
(2) Demand growth to be determined at a later date, if necessary.
(3) Unit capable of accomodating to be determined at a later date, if necessary.
(4) Baseline emissions for SO2 and NOx based on operations for 2006-2007.
(5) Baseline emissions for SAM based on operations for 2004-2005.

Based upon the potential emissions from the project presented in Table A above the project does not result in a significant emission increase of a regulated pollutant. No further PSD review is necessary.

3. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) REVIEW

Brief Discussion of Emissions and PSD Applicability

Based on the projections and conclusions presented by the applicant, and the emissions summary presented in Table A, the Department agrees that the project does not trigger PSD preconstruction review.

Therefore, the project requires a minor air construction permit to authorize the construction of a drying tower acid cooler for the "D" Sulfuric Acid Plant (EU 022).

NSPS Applicability

The "D" Sulfuric Acid Plant (EU 022) is subject to the New Source Performance Standards 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid Plants.

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. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Yasmin K. Enriquez 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 Florida Department of Environmental Protection, Northeast District Office, Air Resources Section, 7525 Baymeadows Way, Suite 200B, Jacksonville, FL 32256-7590, Phone: 904/256-1700.