TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.

Agricultural Chemicals Complex
White Springs, Hamilton County

DEP File No. 0470002-039-AC
PSD-FL-297

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

September 13, 2000

1. APPLICATION INFORMATION

1.1 Applicant Name and Address

White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, Florida 32096

Authorized Representative: Mr. Vernon J. Lloyd, V.P. - Production

1.2 Reviewing and Process Schedule

07-20-2000: Date of Receipt of Application
08-09-2000: DEP Completeness Request
08-11-2000: Applicant's response to DEP's Completeness Request
09-xx-2000: Issue Intent

2. FACILITY INFORMATION

2.1 Facility Location

The agricultural chemicals manufacturing facility is located east of State Road 137, north of White Springs, Hamilton County. This site is approximately 25 kilometers from the Okefenokee National Wilderness Area, a Class I Area. The UTM coordinates of this facility are Zone 17; 328.3 km E; 3368.8 km N.

2.2 Standard Industrial Classification Codes (SIC)

Major Group No.	28	Chemicals and Allied Products
Industry Group No.	2874	Phosphate Fertilizers

2.3 Facility Category

This agricultural chemicals facility makes sulfuric acid, phosphoric acid, superphosphoric acid, monoammonium phosphate (MAP), diammonium phosphate (DAP) and animal feed ingredients.

The sulfuric acid is produced on-site by burning elemental sulfur, converting the resulting sulfur dioxide to sulfur trioxide, and absorbing it into a recirculating sulfuric acid solution. Phosphoric acid is made by acidulation of phosphate rock with sulfuric acid. Waste gypsum is produced and stacked. The phosphoric acid is reacted with ammonia to make MAP and DAP. The phosphoric acid is reacted with limestone and other raw materials to make animal feed ingredients. The facility is classified as a major or Title V source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC) exceed 100 TPY.

This industry is included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Per Table 62-212.400-2, modifications at the facility resulting in emissions increases greater than 3 TPY of fluorides, require review per the PSD rules and a determination of Best Available Control Technology (BACT) per Rule 62-212, F.A.C.

3. PROCESS DESCRIPTION

Phosphoric acid is made by reacting wet phosphate rock with sulfuric acid in reaction tanks, filtering the acid, concentrating the acid, and pumping the acid to various processes and/or storage, as necessary. Waste gypsum from the process is pumped and stacked. Air emissions of fluorides are controlled by scrubbers using pond water.

The acid clarification process uses additives to remove certain impurities from the phosphoric acid. Purified acid is pumped into storage tanks. Air emissions of fluorides are controlled by scrubbers using pond water.

Superphosphoric acid is made by concentrating phosphoric acid, using high vacuum and high pressure steam, to a strength of about 70 percent P_2O_5. Air emissions of fluorides are controlled by scrubbers using pond water.

The X Train (dical) process reacts limestone with phosphoric acid in a pugmill. The resulting slurry is then dryed in a fossil fuel fired direct contact rotary dryer. The dried solids are then screened to remove on size product. The product size material is conveyed to storage. The over-sized and under-sized materials are crushed and recirculated to the pugmill. Air emissions of fluorides and particulate matter are controlled by the add-on wet scrubbers and baghouses, as appropriate.

4. PROJECT DESCRIPTION

This permit addresses the following emissions units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
004	Product	X-Train (Dical)
020	Process	B Phosphoric Acid Plant
069	Process	D Phosphoric Acid Plant
070	Process	C & D Superphosphoric Acid Plant
071	Process	Acid Clarification

The proposed project includes the conversion of the B Phosphoric Acid Plant from prayon to a hemi-hydrate process and an increase in the processing rate from 83 to 100 tons per hour P_2O_5 input; an increase in the processing rate of D Phosphoric Acid Plant from 95 to 110 tons per hour P_2O_5 input; an increase in the processing rate of Acid Clarification from 100 to 110 tons per hour P_2O_5 input; an increase in the processing rate of C & D Superphosphoric Acid Plant from 95 to 110 tons per hour P_2O_5 input; and an increase in the production rate of the X Train (Dical) from 45 to 55 tons per hour product.

Some equipment changes and upgrades will be necessary to increase the production rates of the emission units. The proposed project will result in actual increases in fluorides (Fl) and particulate matter (PM/PM_{10}). There will also be minimal emissions increases of sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC).

Emissions increases of PM/PM_{10}, SO_2, NO_x, CO and VOC are below their respective significant emission levels per Table 62-212.400-2, F.A.C., and do not require PSD or non-attainment new source review. However, PSD review is required for fluorides since emissions, per the application, will increase by more than PSD significant levels.

5. RULE APPLICABILITY

The project is subject to the federal new source performance standards (NSPS) for wet-process phosphoric acid plants (40 CFR 60, Subpart T) and for superphosphoric acid plants (40 CFR 60, Subpart U), incorporated by reference in Rule 62-204.800, F.A.C.

The proposed project is also subject to permitting, preconstruction review, emissions limits and compliance requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

This facility is located in Hamilton County, an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. The proposed project is subject to review under Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), because the potential emission increases for fluorides exceed the significant emission rates given in Chapter 62-212, Table 62-212.400-2, F.A.C. PSD review requires an assessment of air quality impacts and a determination of Best Available Control Technology (BACT).

The emission units affected by this permit modification shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.260	Prevention of Significant Deterioration Increments
Rule 62-204.360	Designation of Prevention of Significant Deterioration Areas
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration
Rule 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-297.520	EPA Continuous Monitor Performance Specifications

6. SOURCE IMPACT ANALYSIS

6.1 Air Quality Analysis

As stated in the application, the proposed project will increase emissions of fluorides in excess of PSD significant amounts. F is a non-criteria pollutant and has no AAQS or PSD increments defined for it; therefore, no air quality impact analysis was required for F. Instead, the BACT requirements will establish the F emission limit for this project. The PSD regulations require an analysis of impacts on soils, vegetation, visibility, growth-related air quality impacts and impacts on the air quality related values.

Based on the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators."

7. CONCLUSION

Based on the foregoing technical evaluation of the application and additional information submitted by the applicant, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations, provided the Department's BACT determination is implemented.

Syed Arif, P.E.