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Street, Apt. No.; or PO Box No. 4014 NW Thirteenth Street

City, State, ZIP+4 Gainesville, Florida 32609

PS Form 3800, January 2001 — See Reverse for Instructions

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1 Article Addressed to:
Mr. Pradeep Raval
Koogler & Associates
4014 NW Thirteenth Street
Gainesville, Florida 32609

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A. Signature
X [signature] ☐ Agent ☐ Addressee

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PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

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BUREAU OF AIR REGULATION

Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd , MS 5505
Tallahassee, FL 32399-2400

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castillé
Secretary

July 8, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Pradeep Raval
Koogler & Associates
4014 NW Thirteenth Street
Gainesville, Florida 32609

Re: White Springs Agricultural Chemicals, Inc.
Liquid Fertilizer Project
Facility ID: 0470002

Dear Mr. Raval:

This is in reply to your letter received on May 13 providing additional information on the proposed 10-34-0 liquid fertilizer project at the White Springs Agricultural Chemicals facility.

The submittal contained test data for particulate and ammonia emissions but did not include any data confirming that fluoride emissions are negligible. After reviewing our files, we located only one data set for fluorides from this process. Attached are copies of the EPA's test results for PCS's plant in Aurora, NC. This data set was contained in the EPA docket file for the Phosphate MACT.

Based on the EPA's test data indicating that fluoride emissions (perhaps HF) are not negligible, a construction permit must be required for this project. If you have any other questions, please contact John Reynolds at 850/921-9530.

Sincerely,

James K. Pennington, P.E.
Administrator
North Permitting Section

JKP/JR

Enclosures

Ammonium Polyphosphate Production Area

Two ammonium polyphosphate (APP) products are produced by Texasgulf at the Aurora site. The two liquid polymeric fertilizers are approximately 10% nitrogen, 34% phosphorus, and 0% potassium (10-34-0), or 11% N, 37% P, and 0% K (11-37-0). The APP Plant is permitted to produce 600 tons of 11-37-0 daily and 660 tons of 10-34-0 daily. The APP Plant was completed by 1981 and relocated in 1992 when automatic process controls replaced the original manual controls.

In the APP production process, superphosphoric acid (SPA) is pumped to the inlet of a pipe reactor mounted on the combined mix tank, cooling tower and scrubber (see Figure 2.5-5). In the pipe reactor, the SPA is reacted with a stream of ammonia to form an ammoniated, highly polymeric liquid fertilizer.

The fertilizer from the product pool is pumped by a recycle pump to the top of the cooling tower where it is distributed over a packing bed. Cooled product is drawn from the product pool through a series of jacketed heat exchangers. The heat exchangers are used to further cool the APP and heat the incoming ammonia stream. From the heat exchanger outlet, most of the APP is sent to storage prior to shipment off site. A small portion of the APP is recycled to the product pool and/or the suction side of the product pump to adjust the temperature of the fertilizer prior to storage.

An ammonia/water mixture is sparged to the bottom of the pool for pH control and pool level maintenance. The secondary vaporizer is used as needed for product cooling.

Superphosphoric Acid Plants 1, 2, 3, and 4

Texasgulf operates four superphosphoric acid plants, each of which is permitted to produce 835 tons of P_2O_5 per day. Superacid plant No. 4 must meet NSPS limits for superacid production. Process flow diagrams for each plant are shown in Figures 2.5-6 through 2.5-9.

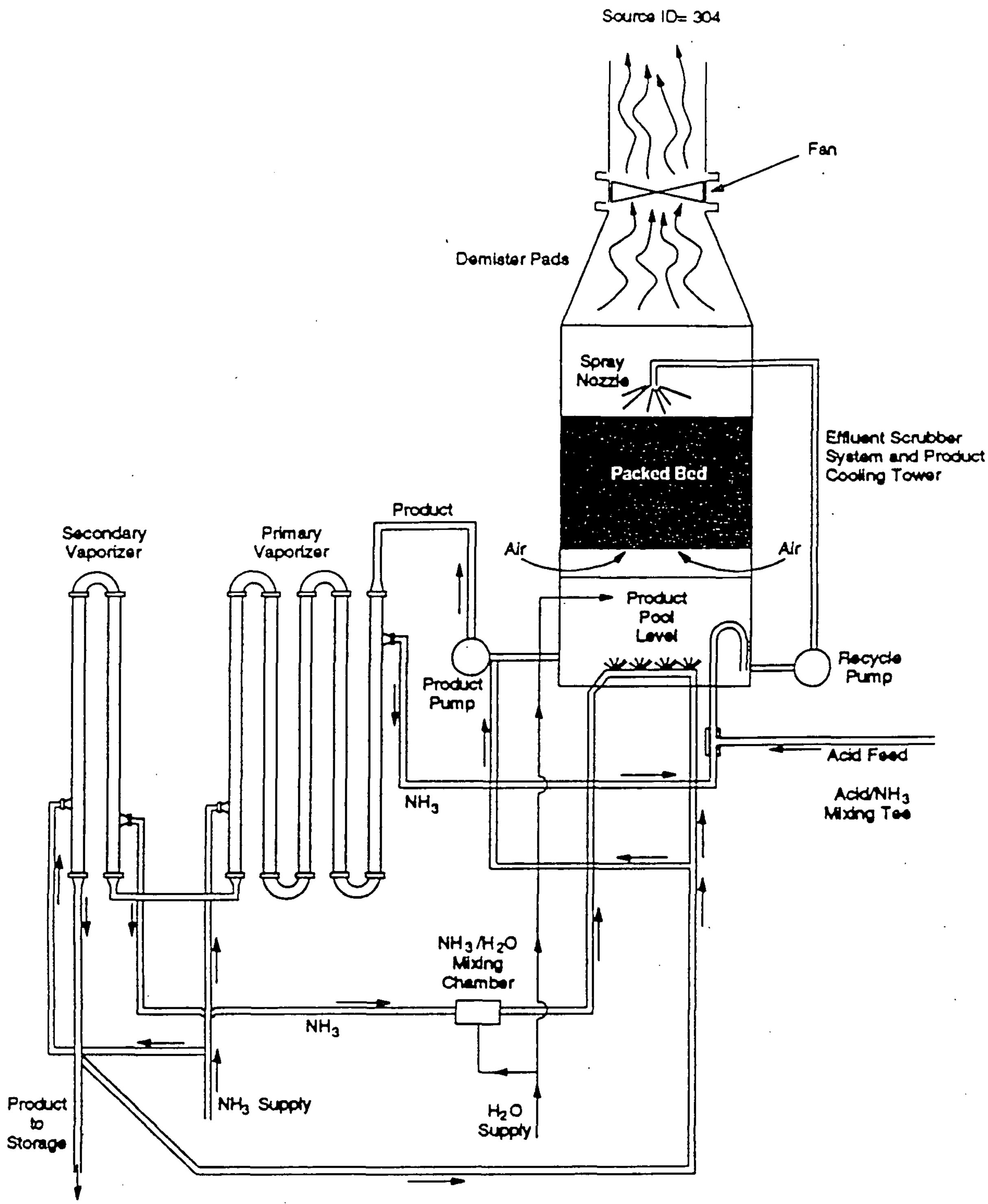

Figure 2.5-5. Schematic Diagram
of Ammoniated Polyphosphate Production Process

9301400RTP

TOXIC DATA F M
Attach to General Information Form "A"
Division of Environmental Management
Toxic Air Permit Application

4/23

G

(1) Source ID 304

(2) Source Description - Include Ammonium Polyphosphate Plant
Any Air Cleaning Equipment

(3) Exhaust Type[a] A

(4) Toxic Emitted to Atmosphere	(5) Toxic Pollutant Number	(6) Requested Maximum Emissions lb/year	lb/day	lb/hour	lb/15 min	(7)[b] Calculation Method	(8) Stack Diam. (ft)	(9) Stack Height (ft)	(10) Exit Velocity (ft/sec)	(11) Exit Temp. (°F)
Ammonia	5				31.25	E	3.9	84	37.7	165
Fluorides	50		5.9	0.25		E	3.9	84	37.7	165
Hydrogen fluoride	59		5.6		0.06	E	3.9	84	37.7	165

[a]Exhaust Type:

A. Unobstructed Vertical Stack
B. Obstructed or Nonvertical Stack
B1. Obstructed Stack
B2. Nonvertical Stack
C. Other Point Source (Specify)
D. Fugitive Emissions
E. Other (Specify)

[b]Calculation Method:

A. AP-42 Emission Factor
B. EPA Document (Give document name)
C. Estimate (Attach related worksheets)
D. Materials Balance (Attached related worksheets)
E. Test Data (Attached related worksheets)
F. Other Emission Factor (Attach description)

300-13

nja.105\forms

nja.105

RADIAN CORPORATION

Table 2.5-5

Toxic Air Pollutant Emission Rates for Ammonium Polyphosphate Plant Stack (Source ID 304)

Pollutant Name	Maximum Emission Rate			Reference	Appendix A Page No.
	lb/day	lb/hr	lb/15 min		
Ammonia			31.25	Recommended maximum limit.	300-13 to 300-14
Fluorides	5.9	0.25		Stack test (speciated from stack test in phosphoric acid plant).	300-13 to 300-14
Hydrogen fluoride	5.6		0.06	Speciation from stack test in phosphoric acid plant.	300-13 to 300-14

Source ID 304 (Ammonia Polyphosphate Plant)

1) Ammonia emission based on stack test data (12/92) plus operational flexibility:

$$\frac{125\ \text{lbs}}{\text{hr}} \times \frac{1}{4} = \frac{31.5\ \text{lbs}\ NH_3}{15\ \text{min}}$$

2) Total fluoride emissions based on stack test (1/87):

$$\frac{0.48\ \text{lb F}}{\text{hr}} \times \frac{24\ \text{hrs}}{\text{day}} = \frac{11.52\ \text{lbs total F}}{\text{day}}$$

3) Further stack tests indicate that 48.9% of total fluoride is hydrogen fluoride. Thus:

$$HF = \frac{0.48\ \text{lb F}}{\text{hr}} \times 0.489 = \frac{0.235\ \text{lb HF}}{\text{hr}} \times \frac{1}{4} = \frac{0.06\ \text{lb HF}}{15\ \text{min}}$$

$$\text{Fluorides} = \frac{11.52\ \text{lbs F}}{\text{day}} \times 0.511 = \frac{5.9\ \text{lbs F}}{\text{day}} = \frac{0.25\ \text{lb F}}{\text{hr}}$$