



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

April 29, 2002

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. John B. Koogler, Ph.D., P.E.
Koogler & Associates Environmental Services
4014 N.W. 13th Street
Gainesville, FL 32609

Re: Clarification of Permit Conditions
DEP File No. 1050051-015-AC (PSD-FL-321)
USAC – Ft. Meade Granular MAP/DAP Plant

Dear Mr. Koogler:

The Department reviewed your letter dated April 8, 2002 in which you asked for clarifications on couple of items in the above referenced permit, issued on March 15, 2002. The Department's response is as follows:

1. Section II, Administrative Requirements, Condition 11: The word "if applicable" is acceptable to the Department.
2. Section III, Emission Unit(s) Specific Condition 15: The Department does not agree with the facility making the determination of the total mass rate in only short tons per hour instead of both short tons per hour and megagram per hour (Mg/hr). The Granular MAP/DAP Plant is subject to the applicable requirements of the New Source Performance Standards as codified in 40 CFR 60 Subpart V. 40 CFR 60.223(b) requires the owner or operator to determine the total mass rate in Mg/hr of phosphorus bearing feed using a flow monitoring device. Specific Condition 3 of Subsection B of the permit limits the production rate to not exceed 60 tons of MAP (31.8 tons of P₂O₅ feed per hour) or 60 tons of DAP (28.2 tons of P₂O₅ feed per hour). The facility is required to comply with both the requirements.

If you have any questions regarding this matter, please contact Syed Arif, P.E. at 850/921-9528.

Sincerely,

A. A. Linero, P.E. Administrator
New Source Review Section

cc: J. Girardin, USAC

"More Protection, Less Process"

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1. Article Addressed to:

John B. Koogler, Ph.D., P.E.
 Koogler & Associates Environmental Services
 4014 N.W. 13th Street
 Gainesville, FL 32609

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A. Received by (Please Print Clearly) *J. Miller* B. Date of Delivery *5-7-2*

C. Signature *[Signature]* Agent Addressee

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Gainesville, FL 32609

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 Koogler & Associates Environmental Services
 4014 N.W. 13th Street
 Gainesville, FL 32609

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 X *J. Miller* Agent Addressee

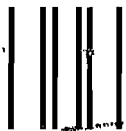
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Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

BUREAU OF AIR REGULATION

MAY 02 2002

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 11 2002

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JUL 16 2002

DIVISION OF AIR
RESOURCES MANAGEMENT

4APT-ATMB

Howard L. Rhodes, Director
Division of Air Resources Management
FL Department of Environmental Protection
Division of Air Resource Management
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Rhodes:

The purpose of this letter is to provide you with a determination regarding an alternative monitoring and recordkeeping proposal contained in the enclosed May 23, 2002, letter from Koogler & Associates Environmental Services (Koogler). In this letter, Koogler requested approval to use English units, instead of metric units for the monitoring and recordkeeping required under four New Source Performance Standards (NSPS) that are applicable to facilities at the U.S. Agri-Chemicals Corporation (USAC) plant in Polk County, Florida. These proposed alternatives are acceptable to U.S. Environmental Protection Agency (EPA) Region 4. Details regarding these proposals and the basis for our determination are provided in the remainder of this letter.

According to Koogler's May 23, 2002, letter, the USAC plant in Polk County contains emission units that are subject to the following NSPS in 40 C.F.R. Part 60:

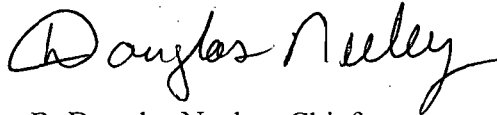
- Subpart H - Standards of Performance for Sulfuric Acid Plants,
- Subpart T - Standards of Performance for the Phosphate Fertilizer Industry:
Wet-Process Phosphoric Acid Plants,
- Subpart U - Standards of Performance for the Phosphate Fertilizer Industry:
Superphosphoric Acid Plants, and
- Subpart V - Standards of Performance for the Phosphate Fertilizer Industry:
Diammonium Phosphate Plants

All four of these regulations contain excess emission monitoring, recordkeeping, and reporting requirements, and Koogler requested approval to use data expressed in English units, rather than metric units, to satisfy these requirements. Based upon our review of these rules, we determined that approval to use English units is not required under Subpart H, since the emission monitoring provisions promulgated at 40 C.F.R. §60.84 do not specifically require that

monitoring results be expressed in metric units. Since monitoring provisions in Subparts T, U, and V require that the feed rate data used to calculate results in units of the applicable standards be expressed in megagrams per hour (Mg/hr), approval to use results expressed in English units (ton/hour) is required. Because the fluoride emission standards in Subparts T, U, and V are expressed in English units (pounds per ton of feed) in addition to metric units (grams per megagram of feed), compliance can be determined as easily with feed rate data expressed in ton/hour as it can be with feed rate data expressed in Mg/hr. Therefore, the Koogler proposal to use data expressed in English units for the excess emission monitoring, recordkeeping, and reporting required under Subparts T, U, and V is acceptable to Region 4.

If you have any questions about the determination provided in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,



R. Douglas Neeley, Chief
Air Toxics and Monitoring Branch
Air, Pesticides and Toxics
Management Division

Enclosure

(1) May 23, 2002, alternative monitoring proposal from Koogler & Associates
Environmental Services



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ■ FAX/377-7158

KA 173-01-01

May 23, 2002

David
Coordinates w/ APB
response - 6/27

Mr. Doug Neeley
Air, Pesticides and Toxics Management Division
USEPA Region IV
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Subject: Request for Change of Monitoring and Recordkeeping Units
U.S. Agri-Chemicals Corporation, Polk County, Florida
Permit Nos. 1050050-002-AV and 1050051-003-AV

Dear Mr. Neeley:

This request is submitted to EPA to allow monitoring and recordkeeping of data in English units, to be consistent with permit limits, rather than the metric units stated in the federal rules, for all the USAC emission units that are subject to federal standards (e.g. 40 CFR 60, Subparts H, T, U and V).

It is our understanding from discussions with Florida Department of Environmental Protection (FDEP) staff that such requests may be submitted for your approval.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par

c: J. Girardin, USAC
R. Brunk, USAC
S. Arif, FDEP

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AIR TOXICS AND MONITORING BRANCH

JUN 04 2002

EPA - REGION 4
ATLANTA, GA

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1. Article Addressed to:

Mr. Phong T. Vo
 U.S. Agri-Chemicals Corporation
 3225 State Road 630 West
 Ft. Meade, FL 33841

COMPLETE THIS SECTION ON DELIVERY

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3-15-02

C. Signature

X *Phong T. Vo* Agent AddresseeD. Is delivery address different from item 1? YesIf YES, enter delivery address below: No

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Phong T. VoStreet, Apt. No.,
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STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

Mr. Phong T. Vo
U.S. Agri-Chemicals Corporation
3225 State Road 630 West
Ft. Meade, Florida 33841

DEP File No. 1050051-015-AC
PSD-FL-321

Enclosed is the FINAL Permit Number PSD-FL-321 for increasing the production rate of the existing Granular MAP/DAP Plant at its phosphate fertilizer manufacturing facility located in Ft. Meade, Polk County. This permit is issued pursuant to Chapter 403, Florida Statutes and in accordance with Rule 62-212.400., F.A.C. - Prevention of Significant Deterioration(PSD).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.


C.H. Fancy, P.E., Chief
Bureau of Air Regulation

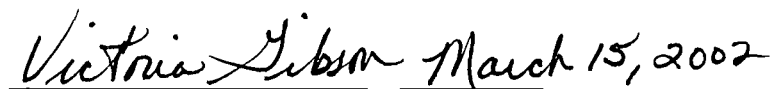
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3/15/02 to the person(s) listed:

Phong T. Vo, USAC*
Gregg Worley, EPA
John Bunyak, NPS
Jerry Kissell, SWD
John Koogler, P.E., K & A

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


(Clerk) March 15, 2002
(Date)



Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

PERMITTEE:

US Agri-Chemicals Corporation
3225 State Rd. 630 West
Ft. Meade, Florida 33841

Authorized Representative:

Phong T. Vo
General Manager of Eng. And Tech. Services

File No.	1050051-015-AC
Permit No.	PSD-FL-321
SIC No.	2874
Project:	Ft. Meade Chemical Plant
Expires:	May 1, 2004

PROJECT AND LOCATION:

Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production and the fertilizer storage and shipping rates at US Agri-Chemicals Corporation's Ft. Meade facility, 3225 State Road 630 West, Ft. Meade, Polk County. UTM coordinates are Zone 17; 416.2 km E; 3068.7 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHED APPENDICES ARE MADE A PART OF THIS PERMIT:

Appendix BD BACT Determination
Appendix GC Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

Facility Description

The U.S. Agri-Chemicals Corporation's Ft. Meade facility manufactures phosphate fertilizer. Phosphate rock is reacted with sulfuric acid (purchased or produced on-site) to make phosphoric acid. The phosphoric acid is reacted with ammonia to make monoammonium phosphate (MAP), or diammonium phosphate (DAP).

This permit allows an increase in the permitted production rate of granular MAP/DAP from 50 to 60 tons product per hour. This corresponds to 31.8 tons of P_2O_5 input per hour for MAP and 28.2 tons of P_2O_5 input per hour for DAP. The maximum loadout rate will be 150 tons per hour, on a daily basis.

REGULATORY CLASSIFICATION

The Ft. Meade facility is classified as a major source of air pollution or Title V source because it has the potential to emit at least 100 tons per year of nitrogen oxides and sulfur dioxide.

PERMIT SCHEDULE:

- 05-07-01: Date of Receipt of Application
- 11-15-01: Application deemed complete
- 01-28-02: Intent issued
- 02-08-02: Notice of Intent published in Lakeland Ledger

RELEVANT DOCUMENTS:

The documents listed form the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

- Application received 05-07-01
- Department's incompleteness letters dated 06-05-01, 10-29-01
- Applicant's letters dated 08-24-01, 09-26-01, 11-13-01
- Technical Evaluation and Preliminary Determination dated 01-25-02
- Best Available Control Technology determination (issued concurrently with permit)

AIR CONSTRUCTION PERMIT 1050051-015-AC AND PSD-FL-321

SECTION II. ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department's Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 and phone number (813)744-6100. All applications for permits to construct or modify an emissions unit(s) *subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blair Stone Road, MS 5505, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).
2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-110, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Expiration: This air construction permit shall expire on **May 1, 2004** [Rule 62-210.300(1), F.A.C.]. The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Southwest District Office of any delays in completion of the project which would affect the startup day by more than 90 days. [Rule 62-4.090, F.A.C.]
6. Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Southwest District Office. [Chapter 62-213, F.A.C.]
7. Permit Approval: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)].

SECTION II. ADMINISTRATIVE REQUIREMENTS

8. BACT Determination: In conjunction with extension of the 18 month periods to commence or continue construction, or extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [40 CFR 52.21(j)(4)]
9. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports using DEP Form 62-210.900(4) shall be sent to the DEP's Southwest District office by March 1st of each year.
10. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
11. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) (1997 version), shall be submitted to the DEP's Southwest District office.
12. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS:

40 CFR 60 - NEW SOURCE PERFORMANCE STANDARDS

This permit addresses the following emission units.

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
037	MAP/DAP Loadout
038	Granular MAP/DAP Plant

These emission units shall comply with all applicable requirements of 40 CFR 60, General provisions, Subpart A, adopted by reference in Rule 62-204.800(7), F.A.C.

- 40 CFR 60.7, Notification and record keeping
- 40 CFR 60.8, Performance tests
- 40 CFR 60.11, Compliance with standards and maintenance requirements
- 40 CFR 60.12, Circumvention
- 40 CFR 60.13, Monitoring requirements
- 40 CFR 60.19, General notification and reporting requirements

The Granular MAP/DAP Plant is subject to the applicable requirements of the New Source Performance Standards (NSPS) adopted by reference in Rules 62-204.800, F.A.C., including:

- 40 CFR 60 Subpart V, Standards of Performance for Diammonium Phosphate Plants (DAP).

SUBSECTION B. SPECIFIC CONDITIONS :

The Specific Conditions listed in this subsection apply to the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
037	MAP/DAP Loadout
038	Granular MAP/DAP Plant

1. Unless otherwise indicated, the construction and operation of the subject Granular MAP/DAP production facility shall be in accordance with the capacities and specifications stated in the application. **[Rule 62-210.300, F.A.C.]**
2. The subject emissions units shall comply with all applicable provisions of the 40 CFR 60 New Source Performance Standards for Diammonium Phosphate Plants, Subpart V. **[Rule 62-204.800 F.A.C.]**
3. The production rate shall not exceed 60 tons of MAP (31.8 tons of P₂O₅ feed per hour) or 60 tons of DAP (28.2 tons of P₂O₅ feed per hour). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**
4. The maximum permitted loadout rate is 150 tons product per hour, on a daily basis. **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

U.S. Agri-Chemicals Corporation
Granular MAP/DAP Plant

DEP File No. 1050051-015-AC
Permit No. PSD-FL-321

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

5. The subject emission units are allowed to operate continuously (8760 hours/year). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**
6. Total fluoride emissions during MAP production shall not exceed 1.18 lb/hr and 5.2 TPY. Total fluoride emissions during DAP production shall not exceed 1.04 lb/hr and 4.6 TPY. **[Rule 62-212.400, F.A.C.]**
7. Particulate matter emissions during MAP/DAP production shall not exceed 10.2 lb/hr and 44.7 TPY. **[Rule 62-212.400, F.A.C.]**
8. Visible emissions from all scrubber stacks shall not exceed 20% opacity. Visible emissions from the Loadout stack shall not exceed 5% opacity. **[Rule 62-212.400, F.A.C.]**
9. The natural gas firing rate in the dryer shall not exceed 30 million BTU per hour. **[Rule 62-210.200, F.A.C.]**
10. The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across each scrubbing system. Accuracy of the monitoring devices shall be $\pm 5\%$ over the operating range. **[Rules 62-297.310, 62-204.800, F.A.C.; 40 CFR 60.223]**
11. Before this construction permit expires, the subject emission units shall be tested for compliance with the above emission limits. For the duration of all tests the emission unit shall be operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the emission unit may be tested at less than permitted capacity (i.e., 90% of the maximum operating rate allowed by the permit); in this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. **[Rule 62-297.310, F.A.C.]**
12. The Department's Southwest District office in Tampa shall be notified in writing at least 15 days prior to the compliance tests. Written reports of the test results shall be submitted to that office within 45 days of test completion. **[Rule 62-297.310, F.A.C.]**
13. The compliance test procedures shall be in accordance with EPA Reference Methods 1, 2, 3, 4, 5, 9 and 13A or 13B, as appropriate, as published in 40 CFR 60, Appendix A. **[Rules 62-204.800 and 62-297.310, F.A.C.]**
14. All measurements, records, and other data required to be maintained by this facility shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. **[Rule 62-213, F.A.C.]**
15. The permittee shall install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of $\pm 5\%$ percent over its operating range. The

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hour of phosphorus bearing feed using the flow monitoring device meeting the requirements of 40 CFR 60.223(a) and then by proceeding according to 40 CFR 60.223(b). **[Rule 62-204.800, F.A.C.; 40 CFR 60.223(b)]**

16. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. **[Rule 62-296.320, F.A.C.]**
17. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. **[Rule 62-210.650, F.A.C.]**
18. The subject emissions units shall be subject to the following:
 - Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. **[Rule 62-210.700, F.A.C.]**
 - Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. **[Rule 62-210.700, F.A.C.]**
 - Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. **[Rule 62-210.700, F.A.C.]**
 - In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. **[Rule 62-210.700, F.A.C.]**
19. The permittee shall submit an Annual Operating Report using the appropriate DEP form to the Department's Southwest District office by March 1 of the following year for the previous year's operation. **[Rule 62-210.370, F.A.C.]**
20. The permittee shall submit an application for the revision of the Title V permit upon completion of construction using the appropriate DEP form to the Department's Southwest District office at least 90 days prior to the expiration date of this permit. **[Rule 62-213, F.A.C.]**

FINAL DETERMINATION
U.S. Agri-Chemicals Corporation
Permit No. 1050051-015-AC, PSD-FL-321
Ft. Meade Chemical Plant

An Intent to Issue an air construction permit to U.S. Agri-Chemicals (USAC) Corp. to increase the production rate of the existing Granular MAP/DAP Plant within the complex in Polk County was distributed on January 28, 2002. The Notice of Intent was published in the Lakeland Ledger on February 8, 2002. Copies of the draft construction permit were available for public inspection at the Department offices in Tampa and Tallahassee.

The Department received no comments from the public, the applicant, or the Fish and Wildlife Service. The Department received the following comments from the U.S. Environmental Protection Agency (EPA), Region 4.

Comment: If not already done, we ask that the Florida Department of Environmental Protection (FDEP) confirm that the increase in MAP/DAP production will not result in increased utilization of (and increased emissions from) the sulfuric acid and phosphoric acid manufacturing areas of the Fort Meade facility.

Response: Over the last year, the sulfuric acid and phosphoric acid plants at the Ft. Meade facility were permitted to expand. The Department issued a construction permit to USAC on February 6, 2001 for increased production capability of the sulfuric acid and phosphoric acid plants (DEP File No. 1050051-009-AC, PSD-FL-278).

Currently some phosphoric acid from the Ft. Meade facility is routed to the USAC Bartow facility. To meet the demands of increased MAP/DAP production, the applicant has noted that, “[s]ome of the phosphoric acid normally routed to the USAC Bartow facility will be supplied to the MAP/DAP plant, to accommodate market demand and operation conditions...”¹ No sulfuric or phosphoric acid production beyond what is currently permitted will result from this action.

Comment: On page 23 of the permit application, the applicant refers to the “presumed BACT guideline cost of around \$10,000 per ton of fluorides removed.” As you know, the U.S. Environmental Protection Agency does not subscribe to the concept of a single bright line cost effectiveness value for use in a best available control technology (BACT) evaluation.

Response: The Department concurs with EPA and does not recognize a single bright line cost effectiveness value for use in BACT evaluations. Cost effectiveness is determined on a case-by-case basis.

¹ Permit Application. “Report in Support of PSD Application for Increase in Granular MAP/DAP Production.” Koogler & Associates, May 2001.

Comment: The applicant did not provide an analysis of potential vegetation and soils impacts due to increased fluorides emissions. Although we recognize that national ambient air quality standards do not exist for fluorides, ample reference information exists for assessing the potential impact of fluorides emissions on vegetation.

Response: Modeling predicted little or no long-term impacts based on fluoride emissions from the project, leading the applicant to conclude that there will be no adverse vegetation and soils impacts. The Department recognizes, however, that the potential ambient fluoride impacts from the USAC facility should be evaluated. In the construction permit issued February 6, 2001, for sulfuric and phosphoric acid production increases (PSD-FL-278), the Department required that the permittee submit for a minimum period of one year additional ambient fluorides monitoring data. The data will be collected beginning with the initial performance test and continuing at least through the first annual compliance test. The Department will stress to USAC that the ambient fluoride monitoring final report should contain an assessment of the potential impact of fluorides on vegetation.

Comment: We would not normally consider as adequate the analysis made by the applicant and by FDEP regarding the cost of neutralized water scrubbing for fluorides control. On page 24 of the permit application, the applicant states that “[t]reated water re-circulation is rejected as BACT based on costs evaluated for a similar project.” On page BD-4 of the preliminary determination, FDEP states that, “the cost would be expected to exceed even that for a packed scrubber.” With respect to the applicant’s statement, the cost data for the similar project is not provided and neither is information to confirm that the other project is in fact similar. With respect to FDEP’s statement, no supporting information is provided for the expectation expressed. However, we are willing to accept that FDEP’s experience with phosphate industry controls provides a basis for concluding that the cost of treated water scrubbing exceeds that for pond water scrubbing.

Response: Based on permitting experience and knowledge of the specific projects discussed in the application and in the BACT determination, the Department is confident that, for this project, packed scrubbing using neutralized water from a dedicated pond has higher costs than packed scrubbing using process cooling pond water. The Department rejected both of these control options and determined BACT to consist of the existing venturi scrubber using pond water.

The final action of the Department is to issue the permit as proposed.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Granular Monoammonium and Diammonium Phosphate Plant
U.S. Agri-Chemicals Corporation
PSD-FL-321 / 1050051-015-AC
Ft. Meade, Polk County

The U.S. Agri-Chemicals Corporation proposes to increase the production rate of granular monoammonium phosphate (MAP) and diammonium phosphate (DAP) from 50 to 60 TPH at its existing Granular MAP/DAP Plant in Ft. Meade, Polk County. This will result in a corresponding increase in the fertilizer loadout operation. The proposed modification will result in a significant increase in emissions of particulate matter (PM/PM₁₀) and fluorides (F). The project is, therefore, subject to Prevention of Significant Deterioration (PSD) review in accordance with Rule 62-212.400, Florida Administrative Code (F.A.C.). A Best Available Control Technology (BACT) determination is part of the review required by Rules 62-212.400 and 62-296, F.A.C.

The Granular MAP/DAP Plant reacts phosphoric acid with ammonia to make granular MAP/DAP. The product goes to storage and loadout. The air emissions are indicated below:

Pollutant	PSD Level ¹	Actual Emissions ²	Current Allowables	Proposed Emissions ³	Net Change ⁴	Subject to PSD Review?
F	3	1.86	2.94	5.2	3.34	Yes
PM	25/15 ⁵	28.7	29.6	49.2	20.5	Yes
NO _x	40	7.2	N/A	18.4	11.2	No

¹ Tons per year (Rule 212.400, F.A.C.)

² Based on projected 2001 operations and compliance data for F and PM/PM₁₀. NO_x emissions based on AP-42 factors for boilers.

³ Proposed by applicant as allowable emissions at the new production rate.

⁴ Applicant's proposed emissions minus actuals.

⁵ PM/PM₁₀.

DATE OF RECEIPT OF COMPLETE BACT APPLICATION:

November 15, 2001

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from a facility can typically be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can generally be classified as indicated below:

- **Fluorides** (HF, F, SiF₄). Controlled generally by scrubbing with pond water.
- **Particulate Matter** (PM, PM₁₀). Controlled generally by wet scrubbing or filtration.
- **Combustion Products** (SO₂, NO_x, PM). Controlled generally by good combustion of clean fuels.
- **Products of Incomplete Combustion** (CO, VOC). Controlled generally by proper combustion.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

standard as a result of PSD review, the control of "non-regulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO₂, H₂SO₄, fluorides, etc.), if a reduction in "non-regulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT LIMITS PROPOSED BY APPLICANT:

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
F (MAP)	1.18 lb/hr	0.037 lb/ton P ₂ O ₅ input	Two-stage scrubbers using acid/pond water
F (DAP)	1.04 lb/hr	0.037 lb/ton P ₂ O ₅ input	Two-stage scrubbers using acid/pond water
PM (Plant)	10.2 lb/hr	0.17 lb/ton product	Cyclones and scrubbers using acid/pond water
PM(Loadout)	5% opacity	Use Baghouse or Oiling	Baghouse or Product Oiling

BACT POLLUTANT ANALYSIS

GASEOUS FLUORIDES (F)

Fluoride-containing gases including hydrogen fluoride (HF) and silicon tetrafluoride (SiF₄) are evolved during the exothermic reaction between ammonia and phosphoric acid that occurs in the reactor and to a lesser extent in the granulator. Since the vent gases from the reactor and granulator contain ammonia in high concentrations, the first scrubbing stage uses a phosphoric acid stream as the scrubbing medium for recovery of ammonia so that it is recycled back to the process. A final stage of pond water scrubbing removes most of the fluoride evolved from the process as well as that which is stripped out of the phosphoric acid in the first stage scrubber.

Additional fluoride and ammonia emissions are generated in the dryer and are controlled by a separate scrubbing system from the reactor and granulator. Gaseous fluoride and ammonia emissions from the cooler are relatively low and therefore do not require special controls. The applicant has proposed that the existing emission control equipment be considered as BACT.

PARTICULATE MATTER (PM/PM₁₀) AND VISIBLE EMISSIONS (VE)

The sources of PM and VE, consisting primarily of MAP/DAP dust along with relatively small amounts of ammonium fluoride and other related compounds, are the granulator, dryer, cooler, screens and mills. These emissions are controlled by cyclones which remove most of the larger particles with the remainder controlled by wet scrubbers. The applicant has proposed that the existing control equipment be considered as BACT.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

BACT DETERMINATION BY THE DEPARTMENT:

Based on the information provided by the applicant and other information available to the Department, the following emission limits are established employing the top-down BACT approach.

POLLUTANT	EMISSION LIMIT	LIMIT BASIS
F (MAP)	1.18 lb/hr	0.037 lb/ton P ₂ O ₅ input
F (DAP)	1.04 lb/hr	0.037 lb/ton P ₂ O ₅ input
PM (Plant)	10.2 lb/hr	0.17 lb/ton product
PM(Loadout)	5% opacity	Use Baghouse or Oiling

FLUORIDES

The top-down BACT determination for fluorides identified the control technologies listed below starting with the most stringent:

1. Packed scrubber using once-through fresh water.
2. Packed scrubber using neutralized water from a dedicated pond (fresh water makeup).
3. Packed scrubber using process cooling pond water.
4. Existing venturi scrubber using pond water.

Use of once-through fresh water would achieve the highest level of fluoride removal but this option is not practical for operations where water conservation is required and plant water balance problems would be created.

Option 2 is possible, however, the cost would be expected to exceed even that for a packed scrubber, as discussed below for Option 3.

Option 3 is possible, however, the costs need to be considered. The following cost estimate is based on information submitted by the applicant.

<u>ITEM</u>	<u>COST</u>
Packed Scrubber (TIC)	\$ 493,240
Annual Costs:	
Indirect (TIC x 0.1715)	\$ 84,600
Operation & Maintenance (@ 12% of TIC)	\$ 60,000
Total Annual Cost	\$ 144,600

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

By conservatively assuming that all the potential fluoride emissions from the plant can be controlled, the emission reduction would be 5.2 tpy.

The cost of additional control:

$$\begin{aligned}\text{Total Cost} &= \$ 144,600 / 5.2 \text{ tpy} \\ &= \$ 27,800 / \text{ton F removed}\end{aligned}$$

This figure is sufficiently high to rule out Option 3, and similarly Option 2. Therefore, Option 4 is determined by the top-down approach as the basis for the fluoride BACT emission limit.

The BACT limit for MAP/DAP, at 0.037 lb/ton P₂O₅ input, is the most stringent fluoride emission limit established by FDEP for such a plant. The recent operation data provide reassurance to FDEP that this stringent emission limit will continue to be met by the plant.

PARTICULATE MATTER (PM/PM₁₀) AND VISIBLE EMISSIONS (VE)

The top-down approach for control of PM/PM₁₀ and VE identified the following BACT options:

1. High-energy (>30 in.w.c.) venturi scrubber or ionizing wet scrubber.
2. Medium-energy (12-30 in.w.c.) venturi scrubber.

Characteristic of this process is that the first stage of scrubbing (acid scrubber) is primarily for ammonia recovery while the primary function of the second stage scrubber is fluoride removal, leaving PM/PM₁₀ control with a secondary priority from a design standpoint. Since recovery of ammonia takes place by chemical reaction with the acid scrubbing medium, the required removal can be effected using a medium energy scrubber which also removes up to 85% of the product dust escaping the cyclones. In this case the tail gas venturi scrubber is a medium energy device that efficiently controls particulate matter.

If maximum PM/PM₁₀ removal is considered to be a design parameter, the cost effectiveness of adding high energy scrubbing to the existing system (Option 1), assuming replacement of the existing venturi scrubbers with high pressure drop units, the costs are expected to be in the range of \$20,000 per ton, due to the high cost of installing new ducts, pumps, fans, and instrumentation for retrofitting an existing system, and the high energy costs. Consequently, Option 1 is not feasible for this project.

Option 2, which reflects the existing venturi scrubber arrangement, is determined to be BACT. The corresponding particulate matter emission limit of 0.17 lb/ton of product is the most stringent limit established by FDEP for such a plant. The recent operation data provide reassurance to FDEP that this stringent emission limit will continue to be met by the plant.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The BACT for the product loadout is determined to be the continued use of a baghouse or product oiling, resulting in visible emissions of 5% opacity or less. This emission limitation is in line with limits established by FDEP for similar operations.

COMPLIANCE

Compliance with the fluoride limit shall be in accordance with the EPA Reference Method 13A or 13B as contained in 40 CFR 60, Appendix A.

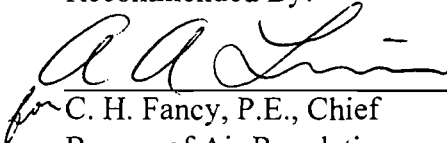
Compliance with the PM/PM₁₀ limit shall be in accordance with the EPA Reference Method 5 as contained in 40 CFR 60, Appendix A.

Compliance with the visible emission limit shall be in accordance with the EPA Reference Method 9 as contained in 40 CFR 60, Appendix A.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Syed Arif, P.E., Permit Engineer, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

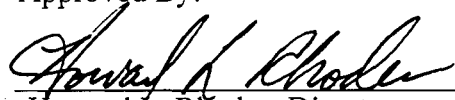
Recommended By:



C. H. Fancy, P.E., Chief
Bureau of Air Regulation

3/12/02
Date:

Approved By:



Howard L. Rhodes, Director
Division of Air Resources Management

3/15/02
Date:

APPENDIX GC
GENERAL PERMIT CONDITIONS [RULE 62-4.160, F.A.C.]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.



APPENDIX GC
GENERAL PERMIT CONDITIONS [RULE 62-4.160, F.A.C.]

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology (*X*)
 - (b) Determination of Prevention of Significant Deterioration (*X*); and
 - (c) Compliance with New Source Performance Standards (*X*).
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - (c) Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Memorandum

**Florida Department of
Environmental Protection**

TO: Howard L. Rhodes
THRU: Clair Fancy 
THRU: Al Linero 
FROM: Syed Arif/Teresa Heron
DATE: March 15, 2002
SUBJECT: U.S. Agri-Chemicals Corporation (USAC)
DEP File No. 1050051-015-AC; PSD-FL-321

Attached for your approval and signature is the final construction permit to increase the production rate of the granular MAP/DAP Plant from 50 tons per hour (TPH) to 60 TPH at its existing chemical complex at Ft. Meade, Polk County.

The project is subject to Prevention of Significant Deterioration (PSD) review for F, PM, and PM₁₀ in accordance with 62-212.400, F.A.C. A Best Available Control Technology (BACT) determination is part of the review required by Rules 62-212.400 and 62-296, F.A.C.

The facility proposes to use the existing scrubbers as BACT for the MAP/DAP Plant with a fluoride emissions limit of 0.037 lb/ton P₂O₅ input and a particulate matter emissions limit of 0.17 lb/ton product. These emission limits represent some of the most stringent limitations imposed on MAP/DAP plants in the US.

The Public Notice was published on February 8, 2002 in the Lakeland Ledger. No comments were received.

I recommend your approval and signature.

AAI/sa

Attachments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 11 2002

RECEIVED

MAR 14 2002

4APT-APB

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

BUREAU OF AIR REGULATION

Dear Mr. Fancy:

Thank you for sending the prevention of significant deterioration (PSD) preliminary determination and draft PSD permit (PSD-FL-321) dated January 25, 2002, for a modification of the US Agri-Chemicals phosphate fertilizer plant in Ft. Meade, Florida. The proposed project involves an increase in the production rate of granular monammonium phosphate and diammonium phosphate (MAP/DAP) fertilizer. PSD review is required for increased emissions of particulate matter (PM/PM₁₀) and fluorides.

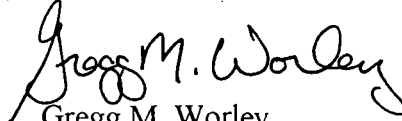
We have the following comments on the preliminary determination and associated permit application:

1. If not already done, we ask that the Florida Department of Environmental Protection (FDEP) confirm that the increase in MAP/DAP production will not result in increased utilization of (and increased emissions from) the sulfuric acid and phosphoric acid manufacturing areas of the Ft. Meade facility.
2. On page 23 of the permit application, the applicant refers to the "presumed BACT guideline cost of around \$10,000 per ton of fluorides removed." As you know, the U.S. Environmental Protection Agency does not subscribe to the concept of a single bright line cost effectiveness value for use in a best available control technology (BACT) evaluation.
3. The applicant did not provide an analysis of potential vegetation and soils impacts due to increased fluorides emissions. Although we recognize that national ambient air quality standards do not exist for fluorides, ample reference information exists for assessing the potential impact of fluorides emissions on vegetation.
4. We would not normally consider as adequate the analysis made by the applicant and by FDEP regarding the cost of neutralized water scrubbing for fluorides control. On page 24

of the permit application, the applicant states that “[t]reated water recirculation is rejected as BACT based on costs evaluated for a similar project.” On page BD-4 of the preliminary determination, FDEP states that “the cost would be expected to exceed even that for a packed scrubber.” With respect to the applicant’s statement, the cost data for the similar project is not provided and neither is information to confirm that the other project is in fact similar. With respect to FDEP’s statement, no supporting information is provided for the expectation expressed. However, we are willing to accept that FDEP’s experience with phosphate industry controls provides a basis for concluding that the cost of treated water scrubbing exceeds that for pond water scrubbing.

If you have any questions concerning the comments in this letter, please contact Jim Little at (404) 562-9118.

Sincerely,

A handwritten signature in cursive script that reads "Gregg M. Worley".

Gregg M. Worley

Chief

Air Permits Section

U.S. Agri-Chemicals Corporation
3225 State Road 630 West
Fort Meade, FL 33841-9799
941 285 8121



A Sinochem Company

RECEIVED

FEB 18 2002

BUREAU OF AIR REGULATION

February 15, 2002

Ms. Teresa Heron
FDEP
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: DEP File No. 1050051-015-AC, PSD-FL-321

Dear Ms. Heron;

Enclosed please find the original Affidavit of Publication for the above referenced DEP File. Please note that a copy of the original was faxed to your office on February 15, 2002 by Pradeep Raval of Koogler and Associates.

If you have any questions regarding this submittal, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Ronald L. Brunk".

Ronald L. Brunk, Manager
Environmental Engineering

xc: J. Girardin

cc: C. Holladay
B. Thomas, SWD
G. Bunyak, NPS
B. Worley, EPA
T. Heron



AFFIDAVIT OF PUBLICATION

THE LEDGER

Lakeland, Polk County, Florida

Case No

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared Ken Holtzinger, who on oath says that he is the Classified Manager of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

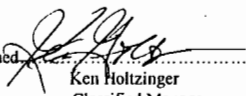
Notice of Intent

DEP File No. 1050051-015-AC

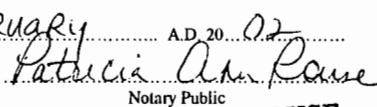
in the matter of
in the
Court, was published in said newspaper in the issues of

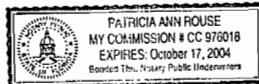
2-8; 2002

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed 
Ken Holtzinger
Classified Manager
Who is personally known to me.

Sworn to and subscribed before me this 11TH day of FEBRUARY A.D. 20 02


Notary Public
PATRICIA ANN ROUSE



(Seal)

My Commission Expires

25740100

G337 US Agri-Chemicals

Attach Notice Here

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 1050051-015-AC, PSD-FL-321
Fl. Meade Facility
U.S. Agri-Chemicals Corporation
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to U.S. Agri-Chemicals Corporation to allow an increase in the production rate of the existing Granular MAP/DAP Plant at its phosphate fertilizer manufacturing facility located in Ft. Meade, Florida. A Best Available Control Technology (BACT) determination was required for fluorides (F), particulate matter (PM) and particulate matter less than or equal to 10 micrometers (PM₁₀) pursuant to Rule 62, 212.400, F.A.C., Prevention of Significant Deterioration (PSD). The applicant's name and address (also facility address) are U.S. Agri-Chemicals Corporation, 3225 Shive Road 030 West, Ft. Meade, Florida 33841.

The proposed changes will include pumps and piping, as necessary. No major equipment changes are proposed as part of this project to increase the production rate.

The Department proposes the continued use of the existing scrubbing system with limitations of 0.037 lb/day P₂O₅ input and 0.17 lb/day input for fluorides and particulate matter, respectively, as BACT for the Granular MAP/DAP Plant.

An air quality impact analysis was conducted. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. The maximum predicted F impacts are below de-minimis levels. The maximum predicted PM₁₀ impacts are below de-minimis and significant levels, as follows:

Averaging Time	Maximum Impact (ug/m ³)	Significant Impact Level (ug/m ³)	De-minimis Level (ug/m ³)
PM ₁₀			
24-hour	2.5	5	10
Annual	0.3	1	NA
24-hour	0.07	NA	0.25

PSD Class 1 significant impact levels were not exceeded in the PSD Class 1 Chassowitzko National Wildlife Area located 110 km to the northwest, therefore a multi-source Class 1 PSD increment analysis for particulate matter was not required. Based on the analysis, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any or PSD increment in the Class 1 area.

The Department will issue the Final Air Construction Permit in accordance with the conditions of the Draft Air Construction Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions. The permitting authority has determined that an Air Construction Permit is required.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of the NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5506, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and reissue, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of the General Counsel of the Department of Environmental Protection, 3299-3000 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of the notice of intent. Petitions filed by any persons other than those listed below must be filed within fourteen days of receipt of the notice of intent. Petitions filed by any persons other than those listed below must be filed within fourteen days of receipt of the notice of intent, whichever occurs first. Under section 120.603(3) of the Florida Statutes must be filed within fourteen days of agency action may file a petition within fourteen days of receipt of the notice of intent, whichever occurs first. Under section 120.603(3) of the Florida Statutes must be filed within fourteen days of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervenor will be only of the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) the name and address of each agency affected and each agency's file name, address, and telephone number of the petitioner's representative. If any, which shall be the address for service purposes during the course of the proceeding, and an explanation of how the petitioner's substantial interests will be affected by the agency's determination; (b) a statement of how and when petitioner received notice of the agency action or proposed action; (c) a statement of how and what issues of material fact, if there are none, the petition must so indicate; (d) a statement of all disputes, ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (e) a statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) a statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation Suite 4, 1111 S. Magnolia Drive Tallahassee, Florida 32301 Telephone: 850/488-0114 Fax: 850/922-6979	Dept. of Environmental Protection Southwest District 3804 Coconut Palm Drive Tampa, Florida 33619-8218 Telephone: 813/744-6100 Fax: 813/744-6684
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The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible applicant, exclusive of confidential records under Section 400.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

G337 - 2-8; 2002

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Phong T. Vo
 General Manager of Engineering
 & Technical Services
 US Agri-Chemicals
 3225 State Road 630 West
 Ft. Meade, FL 33841-9799

2. Article Number (Copy from service label)

7000 2870 0000 7028 3154

PS Form 3871, July 1999

COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)

B. Date of Delivery

C. Signature *W. Wash*

1-30

 Agent
 Addressee

D. Is delivery address different from item 1?

 Yes
 No

If YES, enter delivery address below:

3. Service Type

 Certified Mail
 Registered
 Insured Mail
 Express Mail
 Return Receipt for Merchandise
 C.O.D.

4. Restricted Delivery? (Extra Fee)

 Yes

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 2870 0000 7028 3154

CERTIFIED MAIL RECEIPT

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Postmark
HereSent To
Phong T. VoStreet, Apt. No., or PO Box No.
3225 State Road 630 WestCity, State, ZIP+4
Ft. Meade, FL 33841-9799

PS Form 3800, May 2000

See Reverse for Instructions



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

January 25, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo, General Manager of
Engineering and Technical Services
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9799

Re: DRAFT Permit No. 1050051-015-AC (PSD-FL-321)
Granular MAP/DAP Production Increase
Ft. Meade Chemical Plant


Dear Mr. Vo:

Enclosed is one copy of the Draft Air Construction Permit for modification of the Ft. Meade Chemical Plant, located at 3225 State Road 630 West, Ft. Meade, Polk County. The Technical Evaluation and Preliminary Determination, Best Available Control Technology, the Department's Intent to Issue Air Construction Permit and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE" must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Syed Arif, P.E., at 850/921-9528 or Mr. Linero at 850/921-9523.

Sincerely,


for C. H. Fancy, P.E., Chief,
Bureau of Air Regulation

CHF/sa

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an
Application for Permit by:

Mr. Phong T. Vo, G.M. of Engineering & Technical Services
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9799

DEP File No. 1050051-015-AC
Draft Permit No. PSD-FL-321
Ft. Meade Chemical Plant
Polk County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of DRAFT Permit attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, US Agri-Chemicals, submitted a complete application on November 15, 2001 to the Department for an air construction permit to increase the production rate of the granular MAP/DAP plant at its phosphate fertilizer manufacturing facility located in Ft. Meade. The plant is located at 3225 State Road 630 West, Ft. Meade, Polk County.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a review for the Prevention of Significant Deterioration (PSD), a determination of Best Available Control Technology (BACT) and an air construction permit are required for the proposed work.

The Department intends to issue this Air Construction Permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the Final Air Construction Permit in accordance with the conditions of the attached Draft Air Construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the Draft Air Construction Permit, the permitting authority shall issue a Revised Draft Air Construction Permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

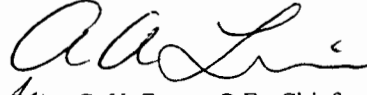
The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would

justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.


for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

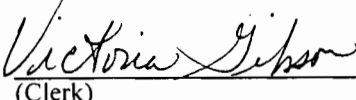
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, Draft BACT Determination, and the DRAFT permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 1/28/02 to the person(s) listed:

Phong T. Vo, US Agri-Chemicals*
Gregg Worley, EPA
John Bunyak, NPS
Bill Thomas, DEP-SWD
John Koogler, Ph.D., P.E., Koogler & Associates

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


(Clerk) January 28, 2002
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 1050051-015-AC, PSD-FL-321
Ft. Meade Facility
U.S. Agri-Chemicals Corporation
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to U.S. Agri-Chemicals Corporation to allow an increase in the production rate of the existing Granular MAP/DAP Plant at its phosphate fertilizer manufacturing facility located in Ft. Meade, Florida. A Best Available Control Technology (BACT) determination was required for fluorides (F), particulate matter (PM) and particulate matter less than or equal to 10 micrometers (PM₁₀) pursuant to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). The applicant's name and address (also facility address) are U.S. Agri-Chemicals Corporation, 3225 State Road 630 West, Ft. Meade, Florida 33841.

The proposed changes will include pumps and piping, as necessary. No major equipment changes are proposed as part of this project to increase the production rate.

The Department proposes the continued use of the existing scrubbing system with limitations of 0.037 lb/ton P₂O₅ input and 0.17 lb/ton product for fluorides and particulate matter, respectively, as BACT for the Granular MAP/DAP Plant.

An air quality impact analysis was conducted. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. The maximum predicted F impacts are below de-minimis levels. The maximum predicted PM₁₀ impacts are below de-minimis and significant levels, as follows:

Averaging Time	Maximum Impact ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	De-minimis Level ($\mu\text{g}/\text{m}^3$)
PM₁₀			
24-hour	2.5	5	10
Annual	0.3	1	NA
F			
24-hour	0.07	NA	0.25

PSD Class I significant impact levels were not exceeded in the PSD Class I Chassahowitzka National Wilderness Area located 110 km to the northwest, therefore a multi-source Class I PSD increment analysis for particulate matter was not required. Based on the analyses, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any or PSD increment in the Class I area.

The Department will issue the Final Air Construction Permit in accordance with the conditions of the Draft Air Construction Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions. The permitting authority has determined that an Air Construction Permit is required.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection
Bureau of Air Regulation
Suite 4, 111 S. Magnolia Drive
Tallahassee, Florida, 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Dept. of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

U.S.AGRI-CHEMICALS CORPORATION

Granular Monoammonium and Diammonium Plant
Fertilizer Loadout
Ft. Meade, Polk County

DEP File No. 1050051-015-AC
PSD-FL-321

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

January 25, 2002

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. APPLICATION INFORMATION

- 1.1 Applicant Name and Address
U.S. Agri-Chemicals Corporation
3225 State Road 630 West
Ft. Meade, Florida 33841

Authorized Representative: Phong T. Vo, General Manager, Engineering and Technical Services

1.2 Reviewing and Process Schedule

05-07-01: Date of Receipt of Application
06-05-01: DEP Completeness Request
08-28-01: USAC response to DEP's Completeness Request
09-26-01: USAC waiver of 30-day review period
10-29-01: DEP Completeness Request
11-15-01: USAC response completing DEP's Review
01-25-02: Intent to Issue Date

2. FACILITY INFORMATION

2.1 Facility Location

The U.S. Agri-Chemicals Corporation (USAC) fertilizer facility is located off State Road 630, near Ft. Meade, Polk County. This site is approximately 110 kilometers from the Chassahowitzka National Wilderness Area, a Class I PSD Area. The UTM coordinates of this facility are Zone 17; 416.2 km E; 3068.7 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 phosphate fertilizer facility makes sulfuric acid, phosphoric acid, monoammonium phosphate (MAP) and diammonium phosphate (DAP). 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 sulfuric acid is produced on-site by burning elemental sulfur, catalytically converting the resulting sulfur dioxide to sulfur trioxide, and absorbing it into a recirculating sulfuric acid solution.

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/PM₁₀), sulfur dioxide (SO₂), 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 40 TPY of NO_x or SO₂ or 7 TPY of sulfuric acid mist (SAM), require review per the

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

PSD rules and a determination of Best Available Control Technology (BACT) per Rule 62-212, F.A.C. The facility includes sulfur storage and handling for which certain analyses are required per Rule 62-212.600, F.A.C.

3. PROCESS DESCRIPTION

In the basic ammoniated phosphate process, anhydrous ammonia is reacted with phosphoric acid. The slurry produced by the ammoniation is then sprayed onto a bed of solids in the granulator and additional ammonia (if required) is added to complete the acid neutralization and produced the final product grade. The resulting slurry/solids mixture contains excess water which is removed by drying 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 passed through a product cooler and then to storage. The over-sized and under-sized materials are crushed and recirculated through the granulator. Air emissions of fluorides, particulate matter, and ammonia are controlled by the process reactions and add-on wet scrubbers.

4. PROJECT DESCRIPTION

This permit addresses the following emissions units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
037	Product	DAP/MAP Loadout
038	Process	Granular MAP/DAP Plant

The applicant proposes to increase the granular MAP and DAP production rate of the existing plant from 50 to 60 tons per hour product. The project may involve minor plant process equipment changes (e.g., pumps, piping, ducting, etc.) to achieve the production rate increase. No major physical modifications are required to increase the production rate. The maximum loadout rate will be 150 tons per hour, on a daily basis.

The proposed project will result in actual increases in fluorides (F1) and particulate matter (PM/PM₁₀). There will also be minimal emissions increases of nitrogen oxides (NO_x). Projected emissions increases of NO_x are below the significant emission level 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 F1 and PM/PM₁₀ since projected emissions will increase by more than PSD significant levels.

5. RULE APPLICABILITY

The project is subject to the federal new source performance standards (NSPS) for DAP plants (40 CFR 60, Subpart V), 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 Polk County, an area designated as attainment for all criteria pollutants

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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 F1 and PM/PM₁₀ 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

6.1.1 Introduction

According to the application, the proposed project will increase emissions of two pollutants in excess of PSD significant amounts: PM₁₀ and F. PM₁₀ is a criteria pollutant and has national and state ambient air quality standards (AAQS) and PSD increments defined for it. 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 NSPS requirements will establish the F emission limit for this project. The PSD regulations require the following air quality analyses for this project:

- A significant impact analysis for PM₁₀;
- An analysis of existing air quality for PM₁₀ and F
- An analysis of impacts on soils, vegetation, and visibility and growth-related impacts.

Based on the required analyses, the Department has reasonable assurance that the proposed

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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." A discussion of the required analyses follows.

6.1.2 Analysis of Existing Air Quality and Determination of Background Concentrations

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review unless otherwise exempted or satisfied. The monitoring requirement may be satisfied by using existing representative monitoring data, if available. An exemption to the monitoring requirement may be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined by air quality modeling, is less than a pollutant-specific de minimus concentration. In addition, if EPA has not established an acceptable monitoring method for the specific pollutant, monitoring may not be required.

If preconstruction ambient monitoring is exempted, determination of background concentrations for PSD significant pollutants with established AAQS may still be necessary for use in any required AAQS analysis. These concentrations may be established from the required preconstruction ambient air quality monitoring analysis or from existing representative monitoring data. These background ambient air quality concentrations are added to pollutant impacts predicted by modeling and represent the air quality impacts of sources not included in the modeling.

The table below shows that predicted F and PM₁₀ impacts from the project are predicted to be less than the de minimus level; therefore, preconstruction ambient air quality monitoring is not required.

**Maximum Project Air Quality Impacts for Comparison
to the De Minimus Ambient Levels.**

Pollutant	Avg. Time	Max Predicted Impact (ug/m ³)	De Minimus Level(ug/m ³)	Impact Greater Than De Minimus?
PM ₁₀	24-hour	2.5	10	NO
F	24-hour	0.07	0.25	NO

6.1.3 Models and Meteorological Data Used in the Air Quality Impact Analysis

The applicant and the Department used the EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model to evaluate the pollutant emissions from the proposed project. The model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and volume sources. The model incorporates elements for plume rise,

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfy the good engineering practice (GEP) stack height criteria.

Meteorological data used in the ISCST3 model consisted of a consecutive 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) stations at Tampa International Airport, Florida (surface data) and Ruskin, Florida (upper air data). The 5-year period of meteorological data was from 1987 through 1991. These NWS stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

Since five years of data were used in ISCST3, the highest-second-high (HSH) short-term predicted concentrations were compared with the appropriate AAQS or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards. For determining the project's significant impact area in the vicinity of the facility and if there are significant impacts from the project on any PSD Class I area, both the highest short-term predicted concentrations and the highest predicted yearly averages were compared to their respective significant impact levels.

6.1.4 Significant Impact Analysis

Initially, the applicant conducts modeling using only the proposed project's emissions changes. If this modeling shows significant impacts, further modeling is required to determine the project's impacts on the AAQS or PSD increments. Fourteen receptor rings with 10 degree intervals (10-360 degrees) were placed at distances ranging from 0.5 to 10 km from the facility, which is located in a PSD Class II area. In addition receptors were located along the facility's property boundary. Discrete receptors were set in the Chassahowitzka National Wilderness Area (CNWA) which is a PSD Class I area located approximately 110 km to the northwest of the project at its closest point. The results of this modeling, presented below, indicate that no significant impacts are predicted from emissions from this project; therefore, no further modeling was required.

**Maximum Project Air Quality Impacts for Comparison to the
PSD Class I and II Significant Impact Levels**

Pollutant	Averaging Time	Maximum Predicted Impact (ug/m ³)	Significant Impact Level (ug/m ³)	Significant Impact?
PM ₁₀ Class I	24-hour	0.04	0.3	NO
	Annual	0.002	0.2	NO
PM ₁₀ Class II	24-hour	2.5	5	NO
	Annual	0.3	1	NO

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

6.2 Additional Impacts Analysis

6.2.1 Impact Analysis Impacts On Soils, Vegetation, And Wildlife

The maximum ground-level concentrations predicted to occur from PM₁₀ emissions as a result of the proposed project, including background concentrations and all other nearby sources, will be below the associated AAQS. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. An air quality related values (AQRV) analysis was done by the applicant for the Class I area. No significant impacts on this area are expected.

6.2.2 Impact On Visibility

A regional haze analysis was used to assess the potential for a significant increase in regional haze in the Class I CNWA due to this source's projected increase in emissions. A regional haze analysis to determine visibility impacts in the Class I area was required by the National Park Service. The results indicate that the impact of this project on visibility in the Class I area is insignificant.

6.2.3 Growth-Related Air Quality Impacts

The proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

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.
Cleve Holladay, Meteorologist

PERMITTEE:

US Agri-Chemicals Corporation
3225 State Rd. 630 West
Ft. Meade, Florida 33841

Authorized Representative:

Phong T. Vo
General Manager of Eng. And Tech. Services

File No.	1050051-015-AC
Permit No.	PSD-FL-321
SIC No.	2874
Project:	Ft. Meade Chemical Plant
Expires:	May 1, 2004

PROJECT AND LOCATION:

Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production and the fertilizer storage and shipping rates at US Agri-Chemicals Corporation's Ft. Meade facility, 3225 State Road 630 West, Ft. Meade, Polk County. UTM coordinates are Zone 17; 416.2 km E; 3068.7 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHED APPENDICES ARE MADE A PART OF THIS PERMIT:

- Appendix BD BACT Determination
- Appendix GC Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

DRAFT

Facility Description

The U.S. Agri-Chemicals Corporation's Ft. Meade facility manufactures phosphate fertilizer. Phosphate rock is reacted with sulfuric acid (purchased or produced on-site) to make phosphoric acid. The phosphoric acid is reacted with ammonia to make monoammonium phosphate (MAP), or diammonium phosphate (DAP).

This permit allows an increase in the permitted production rate of granular MAP/DAP from 50 to 60 tons product per hour. This corresponds to 31.8 tons of P_2O_5 input per hour for MAP and 28.2 tons of P_2O_5 input per hour for DAP. The maximum loadout rate will be 150 tons per hour, on a daily basis.

REGULATORY CLASSIFICATION

The Ft. Meade facility is classified as a major source of air pollution or Title V source because it has the potential to emit at least 100 tons per year of nitrogen oxides and sulfur dioxide.

PERMIT SCHEDULE:

- 05-07-01: Date of Receipt of Application
- 11-15-01: Application deemed complete
- 01-xx-02: Intent issued
- 02-xx-00: Notice of Intent published in _____

RELEVANT DOCUMENTS:

The documents listed form the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

- Application received 05-07-01
- Department's incompleteness letters dated 06-05-01, 10-29-01
- Applicant's letters dated 08-24-01, 09-26-01, 11-13-01
- Technical Evaluation and Preliminary Determination dated 01-25-02
- Best Available Control Technology determination (issued concurrently with permit)

AIR CONSTRUCTION PERMIT 1050051-015-AC AND PSD-FL-321

SECTION II. ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department's Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 and phone number (813)744-6100. All applications for permits to construct or modify an emissions unit(s) *subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blair Stone Road, MS 5505, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).
2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-110, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Expiration: This air construction permit shall expire on **May 1, 2004** [Rule 62-210.300(1), F.A.C.]. The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Southwest District Office of any delays in completion of the project which would affect the startup day by more than 90 days. [Rule 62-4.090, F.A.C.]
6. Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Southwest District Office. [Chapter 62-213, F.A.C.]
7. Permit Approval: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)].

AIR CONSTRUCTION PERMIT 1050051-015-AC AND PSD-FL-321

SECTION II. ADMINISTRATIVE REQUIREMENTS

8. BACT Determination: In conjunction with extension of the 18 month periods to commence or continue construction, or extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [40 CFR 52.21(j)(4)]
9. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports using DEP Form 62-210.900(4) shall be sent to the DEP's Southwest District office by March 1st of each year.
10. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
11. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) (1997 version), shall be submitted to the DEP's Southwest District office.
12. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS:

40 CFR 60 - NEW SOURCE PERFORMANCE STANDARDS

This permit addresses the following emission units.

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
037	MAP/DAP Loadout
038	Granular MAP/DAP Plant

These emission units shall comply with all applicable requirements of 40 CFR 60, General provisions, Subpart A, adopted by reference in Rule 62-204.800(7), F.A.C.

- 40 CFR 60.7, Notification and record keeping
- 40 CFR 60.8, Performance tests
- 40 CFR 60.11, Compliance with standards and maintenance requirements
- 40 CFR 60.12, Circumvention
- 40 CFR 60.13, Monitoring requirements
- 40 CFR 60.19, General notification and reporting requirements

The Granular MAP/DAP Plant is subject to the applicable requirements of the New Source Performance Standards (NSPS) adopted by reference in Rules 62-204.800, F.A.C., including:

- 40 CFR 60 Subpart V, Standards of Performance for Diammonium Phosphate Plants (DAP).

SUBSECTION B. SPECIFIC CONDITIONS :

The Specific Conditions listed in this subsection apply to the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
037	MAP/DAP Loadout
038	Granular MAP/DAP Plant

1. Unless otherwise indicated, the construction and operation of the subject Granular MAP/DAP production facility shall be in accordance with the capacities and specifications stated in the application. **[Rule 62-210.300, F.A.C.]**
2. The subject emissions units shall comply with all applicable provisions of the 40 CFR 60 New Source Performance Standards for Diammonium Phosphate Plants, Subpart V. **[Rule 62-204.800 F.A.C.]**
3. The production rate shall not exceed 60 tons of MAP (31.8 tons of P₂O₅ feed per hour) or 60 tons of DAP (28.2 tons of P₂O₅ feed per hour). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**
4. The maximum permitted loadout rate is 150 tons product per hour, on a daily basis. **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

5. The subject emission units are allowed to operate continuously (8760 hours/year). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**
6. Total fluoride emissions during MAP production shall not exceed 1.18 lb/hr and 5.2 TPY. Total fluoride emissions during DAP production shall not exceed 1.04 lb/hr and 4.6 TPY. **[Rule 62-212.400, F.A.C.]**
7. Particulate matter emissions during MAP/DAP production shall not exceed 10.2 lb/hr and 44.7 TPY. **[Rule 62-212.400, F.A.C.]**
8. Visible emissions from all scrubber stacks shall not exceed 20% opacity. Visible emissions from the Loadout stack shall not exceed 5% opacity. **[Rule 62-212.400, F.A.C.]**
9. The natural gas firing rate in the dryer shall not exceed 30 million BTU per hour. **[Rule 62-210.200, F.A.C.]**
10. The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across each scrubbing system. Accuracy of the monitoring devices shall be $\pm 5\%$ over the operating range. **[Rules 62-297.310, 62-204.800, F.A.C.; 40 CFR 60.223]**
11. Before this construction permit expires, the subject emission units shall be tested for compliance with the above emission limits. For the duration of all tests the emission unit shall be operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the emission unit may be tested at less than permitted capacity (i.e., 90% of the maximum operating rate allowed by the permit); in this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. **[Rule 62-297.310, F.A.C.]**
12. The Department's Southwest District office in Tampa shall be notified in writing at least 15 days prior to the compliance tests. Written reports of the test results shall be submitted to that office within 45 days of test completion. **[Rule 62-297.310, F.A.C.]**
13. The compliance test procedures shall be in accordance with EPA Reference Methods 1, 2, 3, 4, 5, 9 and 13A or 13B, as appropriate, as published in 40 CFR 60, Appendix A. 60, Appendix A. **[Rules 62-204.800 and 62-297.310, F.A.C.]**
14. All measurements, records, and other data required to be maintained by this facility shall be retained for at least five (5) years following the data on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. **[Rule 62-213, F.A.C.]**
15. The permittee shall install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of ± 5 percent over its operating range. The

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hour of phosphorus bearing feed using the flow monitoring device meeting the requirements of 40 CFR 60.223(a) and then by proceeding according to 40 CFR 60.223(b). [Rule 62-204.800, F.A.C.; 40 CFR 60.223(b)]

16. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320, F.A.C.]
17. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]
18. The subject emissions units shall be subject to the following:
 - Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700, F.A.C.]
 - Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700, F.A.C.]
 - Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. [Rule 62-210.700, F.A.C.]
 - In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700, F.A.C.]
19. The permittee shall submit an Annual Operating Report using the appropriate DEP form to the Department's Southwest District office by March 1 of the following year for the previous year's operation. [Rule 62-210.370, F.A.C.]
20. The permittee shall submit an application for the revision of the Title V permit upon completion of construction using the appropriate DEP form to the Department's Southwest District office at least 90 days prior to the expiration date of this permit. [Rule 62-213, F.A.C.]

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Granular Monoammonium and Diammonium Phosphate Plant
U.S. Agri-Chemicals Corporation
PSD-FL-321 / 1050051-015-AC
Ft. Meade, Polk County

DRAFT

The U.S. Agri-Chemicals Corporation proposes to increase the production rate of granular monoammonium phosphate (MAP) and diammonium phosphate (DAP) from 50 to 60 TPH at its existing Granular MAP/DAP Plant in Ft. Meade, Polk County. This will result in a corresponding increase in the fertilizer loadout operation. The proposed modification will result in a significant increase in emissions of particulate matter (PM/PM₁₀) and fluorides (F). The project is, therefore, subject to Prevention of Significant Deterioration (PSD) review in accordance with Rule 62-212.400, Florida Administrative Code (F.A.C.). A Best Available Control Technology (BACT) determination is part of the review required by Rules 62-212.400 and 62-296, F.A.C.

The Granular MAP/DAP Plant reacts phosphoric acid with ammonia to make granular MAP/DAP. The product goes to storage and loadout. The air emissions are indicated below:

Pollutant	PSD Level ¹	Actual Emissions ²	Current Allowables	Proposed Emissions ³	Net Change ⁴	Subject to PSD Review?
F	3	1.86	2.94	5.2	3.34	Yes
PM	25/15 ⁵	28.7	29.6	49.2	20.5	Yes
NO _x	40	7.2	N/A	18.4	11.2	No

¹ Tons per year (Rule 212.400, F.A.C.)

² Based on projected 2001 operations and compliance data for F and PM/PM₁₀. NO_x emissions based on AP-42 factors for boilers.

³ Proposed by applicant as allowable emissions at the new production rate.

⁴ Applicant's proposed emissions minus actuals.

⁵ PM/PM₁₀.

DATE OF RECEIPT OF COMPLETE BACT APPLICATION:

November 15, 2001

BACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from a facility can typically be grouped into categories based upon the control equipment and techniques that are available to control emissions from these emission units. Using this approach, the emissions can generally be classified as indicated below:

- **Fluorides** (HF, F, SiF₄). Controlled generally by scrubbing with pond water.
- **Particulate Matter** (PM, PM₁₀). Controlled generally by wet scrubbing or filtration.
- **Combustion Products** (SO₂, NO_x, PM). Controlled generally by good combustion of clean fuels.
- **Products of Incomplete Combustion** (CO, VOC). Controlled generally by proper combustion.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "non-regulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., PM, SO₂, H₂SO₄, fluorides, etc.), if a reduction in "non-regulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT LIMITS PROPOSED BY APPLICANT:

POLLUTANT	EMISSION LIMIT	LIMIT BASIS	CONTROL TECHNOLOGY
F (MAP)	1.18 lb/hr	0.037 lb/ton P ₂ O ₅ input	Two-stage scrubbers using acid/pond water
F (DAP)	1.04 lb/hr	0.037 lb/ton P ₂ O ₅ input	Two-stage scrubbers using acid/pond water
PM (Plant)	10.2 lb/hr	0.17 lb/ton product	Cyclones and scrubbers using acid/pond water
PM(Loadout)	5% opacity	Use Baghouse or Oiling	Baghouse or Product Oiling

BACT POLLUTANT ANALYSIS

GASEOUS FLUORIDES (F)

Fluoride-containing gases including hydrogen fluoride (HF) and silicon tetrafluoride (SiF₄) are evolved during the exothermic reaction between ammonia and phosphoric acid that occurs in the reactor and to a lesser extent in the granulator. Since the vent gases from the reactor and granulator contain ammonia in high concentrations, the first scrubbing stage uses a phosphoric acid stream as the scrubbing medium for recovery of ammonia so that it is recycled back to the process. A final stage of pond water scrubbing removes most of the fluoride evolved from the process as well as that which is stripped out of the phosphoric acid in the first stage scrubber.

Additional fluoride and ammonia emissions are generated in the dryer and are controlled by a separate scrubbing system from the reactor and granulator. Gaseous fluoride and ammonia emissions from the cooler are relatively low and therefore do not require special controls. The applicant has proposed that the existing emission control equipment be considered as BACT.

PARTICULATE MATTER (PM/PM₁₀) AND VISIBLE EMISSIONS (VE)

The sources of PM and VE, consisting primarily of MAP/DAP dust along with relatively small amounts of ammonium fluoride and other related compounds, are the granulator, dryer, cooler, screens and mills. These emissions are controlled by cyclones which remove most of the larger particles with the remainder controlled by wet scrubbers. The applicant has proposed that the existing control equipment be considered as BACT.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

BACT DETERMINATION BY THE DEPARTMENT:

Based on the information provided by the applicant and other information available to the Department, the following emission limits are established employing the top-down BACT approach.

POLLUTANT	EMISSION LIMIT	LIMIT BASIS
F (MAP)	1.18 lb/hr	0.037 lb/ton P ₂ O ₅ input
F (DAP)	1.04 lb/hr	0.037 lb/ton P ₂ O ₅ input
PM (Plant)	10.2 lb/hr	0.17 lb/ton product
PM(Loadout)	5% opacity	Use Baghouse or Oiling

FLUORIDES

The top-down BACT determination for fluorides identified the control technologies listed below starting with the most stringent:

1. Packed scrubber using once-through fresh water.
2. Packed scrubber using neutralized water from a dedicated pond (fresh water makeup).
3. Packed scrubber using process cooling pond water.
4. Existing venturi scrubber using pond water.

Use of once-through fresh water would achieve the highest level of fluoride removal but this option is not practical for operations where water conservation is required and plant water balance problems would be created.

Option 2 is possible, however, the cost would be expected to exceed even that for a packed scrubber, as discussed below for Option 3.

Option 3 is possible, however, the costs need to be considered. The following cost estimate is based on information submitted by the applicant.

<u>ITEM</u>	<u>COST</u>
Packed Scrubber (TIC)	\$ 493,240
Annual Costs:	
Indirect (TIC x 0.1715)	\$ 84,600
Operation & Maintenance (@ 12% of TIC)	\$ 60,000
Total Annual Cost	\$ 144,600

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

By conservatively assuming that all the potential fluoride emissions from the plant can be controlled, the emission reduction would be 5.2 tpy.

The cost of additional control:

$$\begin{aligned}\text{Total Cost} &= \$144,600 / 5.2 \text{ tpy} \\ &= \$ 27,800/\text{ton F removed}\end{aligned}$$

This figure is sufficiently high to rule out Option 3, and similarly Option 2. Therefore, Option 4 is determined by the top-down approach as the basis for the fluoride BACT emission limit.

The BACT limit for MAP/DAP, at 0.037 lb/ton P₂O₅ input, is the most stringent fluoride emission limit established by FDEP for such a plant. The recent operation data provide reassurance to FDEP that this stringent emission limit will continue to be met by the plant.

PARTICULATE MATTER (PM/PM₁₀) AND VISIBLE EMISSIONS (VE)

The top-down approach for control of PM/PM₁₀ and VE identified the following BACT options:

1. High-energy (>30 in.w.c.) venturi scrubber or ionizing wet scrubber.
2. Medium-energy (12-30 in.w.c.) venturi scrubber.

Characteristic of this process is that the first stage of scrubbing (acid scrubber) is primarily for ammonia recovery while the primary function of the second stage scrubber is fluoride removal, leaving PM/PM₁₀ control with a secondary priority from a design standpoint. Since recovery of ammonia takes place by chemical reaction with the acid scrubbing medium, the required removal can be effected using a medium energy scrubber which also removes up to 85% of the product dust escaping the cyclones. In this case the tail gas venturi scrubber is a medium energy device that efficiently controls particulate matter.

If maximum PM/PM₁₀ removal is considered to be a design parameter, the cost effectiveness of adding high energy scrubbing to the existing system (Option 1), assuming replacement of the existing venturi scrubbers with high pressure drop units, the costs are expected to be in the range of \$20,000 per ton, due to the high cost of installing new ducts, pumps, fans, and instrumentation for retrofitting an existing system, and the high energy costs. Consequently, Option 1 is not feasible for this project.

Option 2, which reflects the existing venturi scrubber arrangement, is determined to be BACT. The corresponding particulate matter emission limit of 0.17 lb/ton of product is the most stringent limit established by FDEP for such a plant. The recent operation data provide reassurance to FDEP that this stringent emission limit will continue to be met by the plant.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The BACT for the product loadout is determined to be the continued use of a baghouse or product oiling, resulting in visible emissions of 5% opacity or less. This emission limitation is in line with limits established by FDEP for similar operations.

COMPLIANCE

Compliance with the fluoride limit shall be in accordance with the EPA Reference Method 13A or 13B as contained in 40 CFR 60, Appendix A.

Compliance with the PM/PM₁₀ limit shall be in accordance with the EPA Reference Method 5 as contained in 40 CFR 60, Appendix A.

Compliance with the visible emission limit shall be in accordance with the EPA Reference Method 9 as contained in 40 CFR 60, Appendix A.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Syed Arif, P.E., Permit Engineer, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

Howard L. Rhodes, Director
Division of Air Resources Management

Date:

Date:

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
 - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology (*X*)
 - (b) Determination of Prevention of Significant Deterioration (*X*); and
 - (c) Compliance with New Source Performance Standards (*X*).
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - (c) Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy *adj for CHF*
THRU: Al Linero *adj*
FROM: Syed Arif *Syed Arif*
DATE: January 25, 2002
SUBJECT: US Agri-Chemicals Corporation
1050051-015-AC (PSD-FL-321)

Attached is the Public Notice package to increase the production rate of the granular MAP/DAP Plant from 50 tons per hour (TPH) to 60 tph at its existing chemical complex at Ft. Meade, Polk County.

The project is subject to Prevention of Significant Deterioration (PSD) review for F, PM, and PM₁₀ in accordance with 62-212.400, F.A.C. A Best Available Control Technology (BACT) determination is part of the review required by Rules 62-212.400 and 62-296, F.A.C.

The facility proposes to use the existing scrubbers as BACT for the MAP/DAP Plant with a fluoride emissions limit of 0.037 lb/ton P₂O₅ input; and , a particulate matter emissions limit of 0.17 lb/ton product. These emission limits represent some of the most stringent limitations imposed on MAP/DAP Plants in the US.

January 25 is Day 71 for the project.

I recommend your approval and signature.

AAL/sa

Attachments



KA 173-01-01

November 13, 2001

RECEIVED

NOV 15 2001

BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Response to FDEP request for Additional Information
USAC – Ft. Meade Granular MAP/DAP Production Increase
DEP File No. 1050051-015-AC, PSD-FL-321

Dear Mr. Linero:

This is in response to your letter dated October 29, 2001, requesting additional information on the above referenced project. The responses are in the order of the issues raised by FDEP.

1. A copy of the April 10, 2001 test report is presented in Attachment 1.
2. The GMAP/DAP application processed by the District office addressed only the plant modification items. Since the loadout section was not being modified, it was not addressed. The estimated PM emissions from the loadout section were based on the same emission factor previously used, and accepted by FDEP, in the original PSD application. We are not opposed to FDEP's BACT limit of 0.012 gr/cf, with compliance demonstrated using EPA Reference Method 9. A request was recently submitted to FDEP's District office to allow the use of dust suppressant oil as an alternative to the use of the baghouse in the loadout section. A copy of this request is presented in Attachment 2, for your files.
3. Per your request, the process flow diagram is resubmitted in an 11" x 17" size for improved legibility (see Attachment 3).

A P.E. Certification page is presented in Attachment 4.

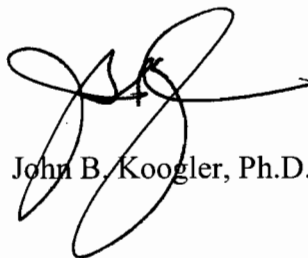
Mr. A.A. Linero
Florida Department of
Environmental Protection

November 13, 2001

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

A handwritten signature in black ink, appearing to be 'JBK', written over a circular scribble.

John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

J. Ault ✓
C. Holladay ✓
B. Thomas, SWD ✓
D. Wally, EPA ✓
G. Rumpf, NPS ✓

ATTACHMENT 1

TEST REPORT



Agri-Chemicals

April 18, 2001


Mr. Bill Proses
Air Compliance Supervisor
FDEP, Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: **1050051-008-AC, E.U. ID No. 038**
Ft. Meade Plant, GMAP Compliance Test

Dear Sir:

R.O. Certification

I hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in the attached documents are true, accurate and complete.



Phong T. Vo, General Manager
Engineering and Technical Services

4/18/01
Date

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions

Permitted	Actual	
0.98	0.52	lbs of fluorides per hour,
0.037	0.021	lbs of fluorides per ton of equivalent P2O5 feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average

25.0	Feedrate (tons P2O5/hr)
47.1	Production rate (tons GMAP/hr)

Scrubber	Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NH3 Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

Analytical Worksheet

10-Apr-01 Date
 GMAP Plant

Fluorine content of stack gas

Run 1	Run 2	Run 3	
1,000	1,000	1,000	Vi = Total volume of impinger wash after final dilution (ml)
1,000	1,000	1,000	Vw = Total probe wash after final dilution (ml)
1,000	1,000	1,000	Vf = Total volume of filter wash after final dilution (ml)
1.28	1.50	1.39	Ci = Concentration of fluorine in impinger wash sample (mg/l)
0.33	0.53	0.42	Cw = Concentration of fluorine in probe wash (mg/l)
0.36	0.29	0.32	Cf = Concentration of fluorine in filter wash sample (mg/l)
1.97	2.32	2.13	Ft = Total fluoride recovered (mg) = (Vi * Ci + Vw * Cw + Vf * Cf) / 1,000 (ml/l)
46.06	45.30	45.40	Vmstd = dry gas volume @stp
0.0428	0.0512	0.0469	Cf = Concentration of fluorine in stack gas (mg/dscf) = Ft / Vmstd
0.47	0.56	0.51	Fh = lbs F/1hr = Cf (mg/dscf) Qsd (dscf/m) 2.205 eex-6(lb/mg) 60 (m/h)
0.0190	0.0223	0.0205	Ft = lbs F/ton P2O5 feed = Fh (lbs F/1hr) / Feedrate (tons P2O5/hr)
		0.5154	Fh ave lbs F/1hr
		0.0206	Ft ave lbs F/ton P2O5 feed

Particulate content of stack gas

Run 1	Run 2	Run 3	
0.0285	0.0338	0.0247	Mn = Mass of particulate matter collected (gm)
46.06	45.30	45.40	Vmstd = dry gas volume @stp
0.00062	0.00075	0.00054	Cp = Particulate concentration (g/dscf) = (0.001 g/mg) (Mn/Vmstd)
83,899	82,460	82,576	Qsd (dscf/m)
6.87	8.14	5.94	Particulates (lb/h) = Cp (g/dscf) 2.205 eex-3 (lb/g) Qsd (dscf/m) 60 (m/h)
0.1491	0.1718	0.1242	Particulates lbs/ton GMAP
		6.98	Particulates lbs/hr (ave)
		0.1484	Particulates lbs/ton GMAP (ave)

P2O5 feed rate calculation (tons P2O5/hr)

52% Feed to Reactor

	Start		Stop		Feedrate (gpm)	Analyses		Feedrate P2O5 (tph)	GMAP % P2O5	GMAP Tons
	Time	Totalizer (gallons)	Time	Totalizer (gallons)		Specific Gravity	%P2O5			
Run 1	9:06	58548	10:19	73.00	66861	113.9	1.688 50.93	24.5	52.41	46.1
Run 2	10:41	69231	11:51	70.00	77428	117.1	1.688 50.93	25.2	52.41	47.4
Run 3	12:13	79939	13:26	73.00	88575	118.3	1.688 50.93	25.4	52.41	47.9

Feedrate = 8.34 (lb/gal) * spgr (lb feed/lb) * gpm (gal/m) * %P2O5 (lbs P2O5/lb feed)/100 * 60 (m/h) * 1/2000 (t/lb)

Total Feedrate

	P2O5 (tph)	GMAP (tph)
Run 1	24.5	46.1
Run 2	25.2	47.4
Run 3	25.4	47.9
Average	25.0	47.1

Stack flow calculations

10-Apr-01 Date
 GMAP Plant

Run #1	Run #2	Run #3
0.24	0.24	0.24
0.0003	0.0003	0.0003
6.71	6.71	6.71
35.36	35.36	35.36
48.20	48.41	48.87
194.9	202.3	203.4
0.982	0.982	0.982
0.84	0.84	0.84
0.878	0.870	0.871
2.04	1.99	2.02
30.03	30.03	30.03
0.00	0.00	0.00
60.00	60.00	60.00
87.3	98.9	103.0
148.0	148.6	148.7
9.17	9.52	9.57
46.06	45.30	45.40
0.166	0.174	0.174
27.17	27.09	27.08
30.03	30.03	30.03
54.40	54.02	54.13
83,899	82,460	82,576
103.0	103.1	103.2
	29.92	
	68	
	29	

- in Dn = nozzle diameter
- sqf An = nozzle cross sectional area
- ft Ds = stack diameter
- sqf As = stack cross sectional area
- cf Vm = Dry gas volume (cf)
- ml Vlc = Volume of liquid collected
- n/a Y = Calibration factor for dry gas meter
- n/a Cp = Pitot tube coefficient
- " H2O dPave = average of square roots of velocity heads dP
- " H2O dH = Orifice pressure drop
- " Hg Pbar = barometric (ambient)
- " H2O Pg = Static stack pressure
- min tt = total sampling time
- F Tm = average dry gas meter temperature
- F Tsa = average stack gas temperature
- cf Vwstd = volume water vapor @stp = 0.04707 * Vlc
- cf Vmstd = dry gas volume @stp = 17.64 Vm Y (Pbar + (dH/13.6)/(Tm + 460))
- % Bws = % moisture volume = Vwstd / (Vmstd + Vwstd)
- lb/mole Ms = molecular weight of stack gas dry = Md (1-Bws) + 18 Bws
- "Hg Ps = absolute stack pressure = Pbar + Pg/13.6
- f/s vs = average stack gas velocity
- dscf/m Qsd = Average dry stack flow rate
- n/a I = isokinetic factor
- " Hg Pstd = standard pressure
- F Tstd = standard temperature
- lb/mole Md = molecular weight of stack gas dry (lb/lb-mole) = 29

$vs = \text{average stack gas velocity} = 85.49 * Cp * (dPave) * \text{sqrt}((Tsave+ 460)/PsMs)$
 $Qsd = \text{Average dry stack flow rate dry} = 60 (1-Bws) * vs * As(Tstd+460) * Ps / ((Tsa+460) * Pstd)$
 $I = \text{isokinetic factor} = 0.0945 * Tsa (R) * Vmstd (cf) / [Ps ("Hg) * vs (f/s) * An (sqf) * tt(min) * (1-Bws)(\%)]$

GMAP Delta P, Flow, Mole Ratio

Test Date 4/10/01

Tower	Time	Delta P	Flow	MR
Run 1	9:06	8.9	571	1.05
	10:19	8.8	571	0.98
Run 2	10:41	8.5	570	1.00
	11:51	8.5	563	1.00
Run 3	12:13	8.6	564	0.99
	13:26	7.9	570	0.97
Average		8.5	568	1.00
Minimum		7.7	511	0.90
Cooler				
Run 1	9:06	12.0	253	NA
	10:19	12.2	260	NA
Run 2	10:41	12.1	256	NA
	11:51	12.2	255	NA
Run 3	12:13	12.0	260	NA
	13:26	12.2	260	NA
Average		12.1	257	NA
Minimum		10.9	232	NA
NH3 Abs.				
Run 1	9:06	3.7	253	0.84
	10:19	3.8	261	1.02
Run 2	10:41	3.8	258	1.03
	11:51	3.9	256	0.80
Run 3	12:13	4.0	261	0.50
	13:26	3.4	257	0.50
Average		3.77	258	0.78
Minimum		3.39	232	0.70

Run # 1 Velocity Traverse Data Sheet

10-Apr-01	Date
GMAP	Plant
Ft. Meade	City
EW/MC	Operator
1	Filter #
0.003	cfm Leak rate- (before @10" Hg)
0.003	cfm Leak rate- (after @ 10" Hg)
0.00	"H2O Pitot leak rate (before)
0.00	"H2O Pitot leak rate (before)
0.7	"H2O Reference dP

75	F Ambient Temperature
30.03	" Hg Pbar = barometric pressure
02:30	mm:ss Sample time interval
0.00	" H2O Pg = Static stack pressure
0.9824	n/a Y = Calibration factor for dry gas meter
6.71	ft Ds = Stack Diameter
0.24	in Dn = nozzle diameter
0.00	" H2O Pitot leak rate (after)
0.00	" H2O Pitot leak rate (after)

75	F Ambient Temperature
30.03	" Hg Pbar = barometric pressure
02:30	mm:ss Sample time interval
0.00	" H2O Pg = Static stack pressure
0.9824	n/a Y = Calibration factor for dry gas meter
6.71	ft Ds = Stack Diameter
0.24	in Dn = nozzle diameter
0.00	" H2O Pitot leak rate (after)
0.00	" H2O Pitot leak rate (after)

Traverse Point	Clock Time	Vaccum (" Hg)	Velocity Head dPs (" H2O)	Square Root	Orifice Pdrop dH ("H2O)	Gas meter reading dVm (f3)	Gas sample temperatures			Temperature	
							After last impinger (F)	Meter Inlet Tmi (F)	Meter Outlet Tmo (F)	Filter (F)	Stack Ts (F)
0	9:07:00					188.10					
1	9:09:30	4.7	0.63	0.79	1.65	189.9	58	76	75	217	147
2	9:12:00	5.3	0.70	0.84	1.85	191.8	58	77	76	223	148
3	9:14:30	5.7	0.75	0.87	2.00	193.7	58	77	76	227	148
4	9:17:00	6.0	0.78	0.88	2.05	195.7	58	78	77	232	148
5	9:19:30	6.8	0.88	0.94	2.30	197.8	58	78	77	235	148
6	9:22:00	6.8	0.88	0.94	2.30	199.9	58	79	79	235	148
7	9:24:30	6.0	0.75	0.87	2.00	202.0	58	80	81	237	148
8	9:27:00	6.0	0.75	0.87	2.00	204.0	58	81	82	235	148
9	9:29:30	6.0	0.75	0.87	2.00	206.0	58	83	84	235	148
10	9:32:00	6.0	0.75	0.87	2.00	208.0	58	84	85	233	148
11	9:34:30	6.1	0.78	0.88	2.05	210.0	58	85	86	235	148
12	9:37:00	5.7	0.70	0.84	1.85	211.9	58	86	87	237	148
0	9:47:00					211.90					
1	9:49:30	4.8	0.63	0.79	1.65	213.7	63	93	89	226	148
2	9:52:00	5.3	0.70	0.84	1.85	215.6	63	92	89	230	148
3	9:54:30	5.7	0.78	0.88	2.05	217.6	63	93	90	233	148
4	9:57:00	6.0	0.80	0.89	2.10	219.6	63	93	91	235	148
5	9:59:30	6.5	0.88	0.94	2.30	221.8	63	94	91	237	148
6	10:02:00	9.3	0.90	0.95	2.35	223.9	63	95	92	237	148
7	10:04:30	9.0	0.78	0.88	2.05	226.0	63	96	94	235	148
8	10:07:00	8.2	0.78	0.88	2.05	228.0	63	97	95	238	148
9	10:09:30	7.5	0.83	0.91	2.20	230.1	63	97	95	240	148
10	10:12:00	7.8	0.90	0.95	2.35	232.3	64	98	96	238	148
11	10:14:30	6.5	0.75	0.87	2.00	234.3	64	99	97	240	148
12	10:17:00	6.0	0.70	0.84	1.85	236.30	64	99	97	242	148
	Sampling Time		Average of square roots		Average orifice Pdrop dH	Total Gas Volume Vm	Max after last impinger	Average meter temp Tm			Average Stack Temp Tsa
	tt		dPave		dH	Vm		Tm			Tsa
	60		0.878		2.04	48.20	64	87.3			148.0

Moisture content of stack gas			
Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
1	638.9	788.3	149.4
2	667.3	701.7	34.4
3	544.5	551.4	6.9
4	631.0	635.2	4.2
Total		Vlc =	194.9

Total particulate weight (g)			
	Gross	Tare	Factor
Probe wash	84.6309	84.6299	20
Filter	0.422	0.4135	n/a
Total			Mn = 0.0285

Aliquot Calculations		
Total Wash	Aliquot Dried	Factor
Probewash	1000	50
		20

	F (mg/l)
Impinger	1.28
Probe Wash	0.33
Filter	0.36

Run # 2 Velocity Traverse Data Sheet

10-Apr-01	Date
GMAP	Plant
Ft. Meade	City
EW/MC	Operator
2	Filter #
0.002	cfm Leak rate- (before @10" Hg)
0.002	cfm Leak rate- (after @ 10" Hg)
0.00	"H2O Pitot leak rate (before)
0.00	"H2O Pitot leak rate (before)
0.7	"H2O Reference dP

83
30.03
02:30
0.00
0.9824
6.71
0.24
0.00
0.00

F Ambient Temperature
 " Hg Pbar = barometric pressure
 mm:ss Sample time interval
 " H2O Pg = Static stack pressure
 n/a Y = Calibration factor for dry gas meter
 ft Ds = Stack Diameter
 in Dn = nozzle diameter
 " H2O Pitot leak rate (after)
 " H2O Pitot leak rate (after)

Traverse Point	Clock Time	Vaccum	Velocity Head dPs	Square Root	Orifice Pdrop dH	Gas meter reading dVm	Gas sample temperatures			Temperature	
							After last impinger	Meter Inlet Tmi	Meter Outlet Tmo	Filter	Stack Ts
							(F)	(F)	(F)	(F)	(F)
0	10:42:00					236.49					
1	10:44:30	6.5	0.63	0.79	1.65	238.4	58	96	93	217	148
2	10:47:00	7.3	0.70	0.84	1.85	240.3	58	95	93	225	148
3	10:49:30	7.7	0.73	0.85	1.90	242.3	58	95	93	234	148
4	10:52:00	8.0	0.80	0.89	2.10	244.3	58	95	93	238	148
5	10:54:30	8.5	0.85	0.92	2.20	246.4	58	95	94	240	148
6	10:57:00	8.3	0.80	0.89	2.10	248.5	58	96	94	237	148
7	10:59:30	8.0	0.73	0.85	1.90	250.5	58	96	94	241	148
8	11:02:00	8.0	0.73	0.85	1.90	252.5	58	96	96	242	148
9	11:04:30	8.0	0.73	0.85	1.90	254.5	58	96	96	245	148
10	11:07:00	8.0	0.75	0.87	2.00	256.5	58	97	96	250	149
11	11:09:30	8.2	0.80	0.89	2.10	258.5	56	98	99	255	149
12	11:12:00	7.8	0.70	0.84	1.85	260.5	56	98	99	260	149
0	11:20:00					260.47					
1	11:22:30	7.0	0.65	0.81	1.72	262.3	60	99	99	245	149
2	11:25:00	7.4	0.70	0.84	1.85	264.2	60	100	100	245	149
3	11:27:30	7.7	0.73	0.85	1.90	266.2	60	100	100	248	149
4	11:30:00	8.0	0.80	0.89	2.10	268.3	60	100	101	255	149
5	11:32:30	8.8	0.85	0.92	2.25	270.4	60	101	102	250	149
6	11:35:00	8.8	0.85	0.92	2.25	272.5	60	102	102	250	149
7	11:37:30	8.5	0.80	0.89	2.10	274.6	60	102	103	255	149
8	11:40:00	8.5	0.80	0.89	2.10	276.7	60	103	103	250	149
9	11:42:30	8.5	0.80	0.89	2.10	278.6	60	103	104	250	149
10	11:45:00	8.5	0.80	0.89	2.10	280.7	60	104	105	255	149
11	11:47:30	8.2	0.75	0.87	2.00	282.8	60	104	105	255	149
12	11:50:00	8.0	0.70	0.84	1.85	284.90	60	105	106	250	149
	Sampling Time		Average of square roots		Average orifice Pdrop	Total Gas Volume	Max after last impinger	Average meter temp			Average Stack Temp
	tt		dPave		dH	Vm		Tm			Tsa
	60		0.870		1.99	48.41	60	98.9			148.6

Moisture content of stack gas			
Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
1	657.8	802.2	144.4
2	664.7	711.5	46.8
3	528.7	534.1	5.4
4	660.2	665.9	5.7
Total		Vlc =	202.3

Total particulate weight (g)				
	Gross	Tare	Factor	Net
Probe wash	84.5386	84.5376	20	0.0200
Filter	0.4379	0.4241	n/a	0.0138
Total			Mn =	0.0338

Aliquot Calculations			
	Total Wash	Aliquot Dried	Factor
Probewash	1000	50	20

	F (mg/l)
Impinger	1.5
Probe Wash	0.53
Filter	0.29

Run # 3 Velocity Traverse Data Sheet

10-Apr-01	Date
GMAP	Plant
Ft. Meade	City
EW/MC	Operator
3	Filter #
0.005	cfm Leak rate- (before @10" Hg)
0.005	cfm Leak rate- (after @ 14" Hg)
0.00	"H2O Pitot leak rate (before)
0.00	"H2O Pitot leak rate (before)
0.7	"H2O Reference dP

85	F	Ambient Temperature
30.03	" Hg	Pbar = barometric pressure
02:30	mm:ss	Sample time interval
0.00	" H2O	Pg = Static stack pressure
0.9824	n/a	Y = Calibration factor for dry gas meter
6.71	ft	Ds = Stack Diameter
0.24	in	Dn = nozzle diameter
0.00	" H2O	Pitot leak rate (after)
0.00	" H2O	Pitot leak rate (after)

Traverse Point	Clock Time	Vaccum	Velocity Head dPs	Square Root	Orifice Pdrop dH	Gas meter reading dVm	Gas sample temperatures			Temperature	
							After last impinger	Meter Inlet Tmi	Meter Outlet Tmo	Filter	Stack Ts
							(F)	(F)	(F)	(F)	(F)
0	12:14:00					285.23					
1	12:16:30	5.0	0.63	0.79	1.65	287.1	62	101	101	223	148
2	12:19:00	5.3	0.70	0.84	1.85	289.0	62	101	101	231	148
3	12:21:30	5.5	0.75	0.87	2.00	291.0	62	100	100	239	148
4	12:24:00	5.7	0.78	0.88	2.10	293.0	62	101	100	241	148
5	12:26:30	6.0	0.83	0.91	2.20	295.1	62	101	101	245	148
6	12:29:00	6.2	0.85	0.92	2.25	297.1	62	101	101	250	148
7	12:31:30	5.7	0.75	0.87	2.00	299.3	62	102	103	250	149
8	12:34:00	5.7	0.75	0.87	2.00	301.4	62	103	104	258	149
9	12:36:30	5.7	0.75	0.87	2.00	303.4	62	104	105	260	149
10	12:39:00	5.8	0.78	0.88	2.10	305.5	64	104	105	255	149
11	12:41:30	5.8	0.78	0.88	2.10	307.6	64	104	105	250	149
12	12:44:00	5.5	0.70	0.84	1.85	309.59	64	105	106	243	149
0	12:53:00					309.59					
1	12:55:30	5.0	0.63	0.79	1.65	311.4	59	103	104	250	148
2	12:58:00	5.3	0.70	0.84	1.85	313.4	59	103	104	260	148
3	13:00:30	5.5	0.75	0.87	2.00	315.3	59	103	104	255	150
4	13:03:00	5.8	0.80	0.89	2.10	317.4	59	103	104	250	150
5	13:05:30	9.0	0.83	0.91	2.20	319.4	59	103	104	242	150
6	13:08:00	9.0	0.83	0.91	2.20	321.5	59	103	104	235	148
7	13:10:30	8.7	0.83	0.91	2.20	323.7	64	103	104	240	148
8	13:13:00	8.7	0.75	0.87	2.00	325.7	64	103	104	245	149
9	13:15:30	9.0	0.78	0.88	2.10	327.8	64	103	104	250	149
10	13:18:00	9.0	0.80	0.89	2.10	329.9	64	102	104	255	149
11	13:20:30	8.7	0.80	0.89	2.10	332.1	64	102	105	245	149
12	13:23:00	5.7	0.70	0.84	1.85	334.10	64	102	105	240	149
	Sampling Time		Average of square roots		Average orifice Pdrop	Total Gas Volume	Max after last impinger	Average meter temp			Average Stack Temp
	tt		dPave		dH	Vm		Tm			Tsa
	60		0.871		2.02	48.87	64	103.0			148.7

Moisture content of stack gas			
Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
1	647.6	800.8	153.2
2	663.3	710.5	47.2
3	557.3	554.3	-3.0
4	640.7	646.7	6.0
Total		Vlc =	203.4

	Total particulate weight (g)			
	Gross	Tare	Factor	Net
Probe wash	83.5335	83.533	20	0.0100
Filter	0.436	0.4213	n/a	0.0147
Total			Mn =	0.0247

	F (mg/l)
Impinger	1.39
Probe Wash	0.42
Filter	0.32

Aliquot Calculations			
	Total Wash	Aliquot Dried	Factor
Probewash	1000	50	20

Run # | Velocity Traverse Data Sheet

4-10-01	Date	75
MAP	Plant	30.03
Ft Meade	City	02:30
EW/Mr.	Operator	n/a
i	Filter #	0.9824
0.023	cfm	Leak rate- (before @10" Hg)
0.023	cfm	Leak rate- (after @ 10" Hg)
0.0	"H2O +	Pitot leak rate (before)
0.0	"H2O -	Pitot leak rate (before)
0.7	"H2O	Reference dP

- F Ambient Temperature
- " Hg Pbar = barometric pressure
- mm:ss Sample time interval
- " H2O Pg = Static stack pressure
- n/a Y = Calibration factor for dry gas meter
- ft Ds = Stack Diameter
- in Dn = nozzle diameter
- " H2O + Pitot leak rate (after)
- " H2O - Pitot leak rate (after)

Traverse Point	Clock Time	Vacuum	Velocity Head dPs	Orifice Pdrop dH	Gas meter reading dVm	Gas sample temperatures			Temperature	
						After last impinger	Meter Inlet Tmi	Meter Outlet Tmo	Filter	Stack Ts
						(F)	(F)	(F)	(F)	(F)
0	09:07				188.1					
1	09.5	4.7	63	1.65	189.9	58	76	75	217	147
2	12	5.3	7	1.85	191.8	58	77	76	223	148
3	13.5	5.7	75	2.0	193.7	58	77	76	227	148
4	17	6.0	78	2.05	195.7	58	78	77	232	148
5	19.5	6.8	88	2.3	197.8	58	78	77	235	148
6	22	6.8	88	2.3	199.9	58	79	79	235	148
7	24.5	6.0	75	2.0	202.0	58	80	81	237	148
8	27	6.0	75	2.0	204.0	58	81	82	235	148
9	29.5	6.0	75	2.0	206.0	58	83	84	235	148
10	32	6.0	75	2.0	208.0	58	84	85	233	148
11	34.5	6.1	78	2.05	210.0	58	85	86	235	148
12	37	5.7	7	1.85	211.0	58	86	87	227	148
0	09:47				211.0					
1	20.5	4.8	63	1.65	213.7	63	93	80	226	148
2	52	5.3	7	1.85	215.6	63	92	89	230	148
3	54.5	5.7	78	2.05	217.6	63	93	90	233	148
4	57	6.0	8	2.1	219.6	63	93	91	235	148
5	59.5	6.5	88	2.3	221.8	63	94	91	237	148
6	1002	9.3	9	2.35	223.9	63	95	92	237	148
7	01:45	9.0	78	2.05	226.0	63	96	94	235	148
8	07	8.2	78	2.05	228.0	63	97	95	238	148
9	09.5	7.5	83	2.2	230.1	63	97	95	240	148
10	12	7.8	9	2.35	232.3	63	98	96	239	148
11	14.5	6.5	75	2.0	234.3	63	99	97	240	148
12	17	6.0	7	1.85	236.2	63	90	87	237	148

Moisture content of stack gas

Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
A 1	638.9	788.3	
A 2	667.3	701.7	
A 3	544.5	551.4	
A 4	631.0	635.2	
Total			Vic =

Total particulate weight (g)

	Total particulate weight (g)			Net
	Gross	Tare	Factor	
Probe wash	83.5335	83.5330	10	
Filter	0.4360	0.4213	n/a	
Total			Mn =	

Aliquot Calculations

Probewash	Aliquot Calculations		
	Total Wash	Aliquot Dried	Factor
1000	100	10	

TOTAL

	F (mg/l)	NH3 (mg/l)
Probe Wash	0.33	1.14
Filter	0.36	2.45
Impingers	1.28	125.1
TOTAL	1.97	143.5

Run # 2 Velocity Traverse Data Sheet

4-10-01
MAP
Ft. Meade
Ew/Mc
Z
0.002
6.002
0.0
0.0
0.7

Date
Plant
City
Operator
Filter #
cfm Leak rate- (before @10" Hg)
cfm Leak rate- (after @ 10" Hg)
"H2O + Pitot leak rate (before)
"H2O - Pitot leak rate (before)
"H2O Reference dP

83
32.03
02:30
0.12
0.9824
6.71
0.74
0.12
0.12

F Ambient Temperature
" Hg Pbar = barometric pressure
mm:ss Sample time interval
" H2O Pg = Static stack pressure
n/a Y = Calibration factor for dry gas meter
ft Ds = Stack Diameter
in Dn = nozzle diameter
" H2O + Pitot leak rate (after)
" H2O - Pitot leak rate (after)

Traverse Point	Clock Time	Vacuum	Velocity Head dPs	Orifice Pdrop dH	Gas meter reading dVm	Gas sample temperatures			Temperature	
						After last impinger	Meter Inlet Tmi	Meter Outlet Tmo	Filter	Stack Ts
	(std)	(" Hg)	(" H2O)	("H2O)	(B)	(F)	(F)	(F)	(F)	(F)
0	1042				236.49					
1	44.5	6.5	.63	1.65	238.2	58	96	93	217	148
2	47	7.3	.7	1.85	240.3	58	95	93	225	149
3	49.5	7.7	.73	1.9	242.3	58	95	93	234	149
4	52	8.0	.8	2.1	244.3	58	95	93	238	148
5	54.5	8.5	.85	2.2	246.4	58	95	94	240	148
6	57	8.3	.8	2.1	248.5	58	96	94	237	148
7	59.5	8.0	.73	1.9	250.5	58	96	94	241	148
8	1102	8.0	.73	1.9	252.5	58	96	93	242	148
9	04.5	8.0	.73	1.9	254.5	58	96	96	245	148
10	07	8.0	.75	2.0	256.5	58	97	96	250	149
11	09.5	8.2	.8	2.1	258.5	56	98	99	255	149
12	12	7.8	.7	1.85	260.47	56	98	99	260	149
0	1120				260.47					
1	22.5	7.0	.65	1.72	262.3	60	99	99	245	149
2	25	7.4	.7	1.85	264.2	60	100	100	245	149
3	27.5	7.7	.73	1.9	266.2	60	100	100	248	149
4	30	8.0	.8	2.1	268.3	60	100	101	255	149
5	32.5	8.8	.85	2.25	270.4	60	101	102	250	149
6	35	8.8	.85	2.25	272.5	60	102	102	250	149
7	37.5	8.5	.8	2.1	274.6	60	102	103	255	149
8	40	8.5	.8	2.1	276.7	60	103	103	250	149
9	42.5	8.5	.8	2.1	278.6	60	103	104	250	149
10	45	8.5	.8	2.1	280.7	60	104	105	255	149
11	47.5	8.2	.75	2.0	282.8	60	104	105	255	149
12	50	8.0	.7	1.85	284.9	60	105	105	250	149

Moisture content of stack gas

Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
3 1	657.8	802.2	
3 2	664.7	711.5	
3 3	528.7	534.1	
3 4	660.2	665.9	
Total		Vlc =	

TOTAL

	F (mg/l)	NH3 (mg/l)
Probe Wash	0.53	3.08
Filter	0.29	3.02
Impingers	1.50	243.71

TOTAL 2.32 249.81

Total particulate weight (g)

	Total particulate weight (g)			Net
	Gross	Tare	Factor	
Probe wash	84.5386	84.5376	10	
Filter	0.4379	0.4241	n/a	
Total			Mn =	

Aliquot Calculations

	Total Wash	Aliquot Dried	Factor
Probewash	1000	100	10

Run # 3 Velocity Traverse Data Sheet

4-10-01
MAP
Ft. Meade
EW/PAI
3
0.005
0.005
0.0
0.0
0.7

Date
Plant
City
Operator
Filter #
cfm Leak rate- (before @10" Hg)
cfm Leak rate- (after @ 10" Hg)
"H2O + Pitot leak rate (before)
"H2O - Pitot leak rate (before)
"H2O Reference dP

85
30.03
02:30
0.0
0.9874
6.71
0.24
0.0
0.0

F Ambient Temperature
" Hg Pbar = barometric pressure
mm:ss Sample time interval
" H2O Pg = Static stack pressure
n/a Y = Calibration factor for dry gas meter
ft Ds = Stack Diameter
in Dn = nozzle diameter
" H2O + Pitot leak rate (after)
" H2O - Pitot leak rate (after)

Traverse Point	Clock Time (std)	Vacuum (" Hg)	Velocity Head dPs		Orifice Pdrop dH ("H2O)	Gas meter reading dVm (B)	Gas sample temperatures			Temperature	
			(" H2O)	("H2O)			After last impinger (F)	Meter Inlet Tmi (F)	Meter Outlet Tmo (F)	Filter (F)	Stack Ts (F)
0	12.4					285.23					
1	16.5	5.0	.63	1.65	287.1	62	101	101	233	148	
2	19	5.3	.7	1.85	289.0	62	101	101	231	148	
3	21.5	5.5	.75	2.0	291.0	62	100	100	239	148	
4	24	5.7	.78	2.1	293.0	62	101	100	241	148	
5	26.5	6.0	.83	2.2	295.1	62	101	101	245	148	
6	29	6.2	.85	2.25	297.1	62	101	101	250	148	
7	31.5	5.7	.75	2.0	299.3	62	102	103	250	149	
8	34	5.7	.75	2.0	301.4	62	103	104	258	149	
9	36.5	5.7	.75	2.0	303.4	62	104	105	260	149	
10	39	5.8	.78	2.1	305.5	64	104	105	255	149	
11	41.5	5.8	.78	2.1	307.6	64	104	105	250	149	
12	44	5.5	.7	1.85	309.59	64	105	106	242	149	
0	1253				309.59						
1	55.5	5.0	.63	1.65	311.4	59	103	104	250	148	
2	58	5.3	.7	1.85	313.4	59	103	104	260	148	
3	1300.5	5.5	.75	2.0	315.3	59	103	104	255	150	
4	03	5.8	.8	2.1	317.4	59	103	104	250	150	
5	05.5	9.0	.83	2.2	319.4	59	103	104	242	150	
6	08	9.0	.83	2.2	321.5	59	103	104	235	148	
7	10.5	8.7	.83	2.2	323.7	64	103	104	240	148	
8	13	8.7	.75	2.0	325.7	64	103	104	245	149	
9	15.5	9.0	.78	2.1	327.8	64	103	104	250	149	
10	18	9.0	.8	2.1	329.9	64	102	104	255	149	
11	20.5	8.7	.8	2.1	332.1	64	102	105	245	149	
12	23	5.7	.7	1.85	334.1	64	102	105	250	149	

Moisture content of stack gas

Impinger	Impinger Volume (ml)		Moisture collected (ml)
	Before	After	
C 1	647.6	800.8	
C 2	663.3	710.5	
C 3	557.3	554.3	
C 4	640.7	646.7	
Total		Vic =	

Total particulate weight (g)

	Total particulate weight (g)			Net
	Gross	Tare	Factor	
Probe wash	84.6309	84.6299	10	
Filter	0.4220	0.4135	n/a	
Total			Mn =	

Aliquot Calculations

	Total Wash	Aliquot Dried	Factor
Probewash	1000	100	10

	F (mg/l)	NH3 (mg/l)
Probe Wash	0.42	3.62
Filter	0.32	1.20
Impingers	1.39	254.92
TOTAL	2.13	259.74

NOZZLE CALIBRATION

Nozzle S/N - 1364

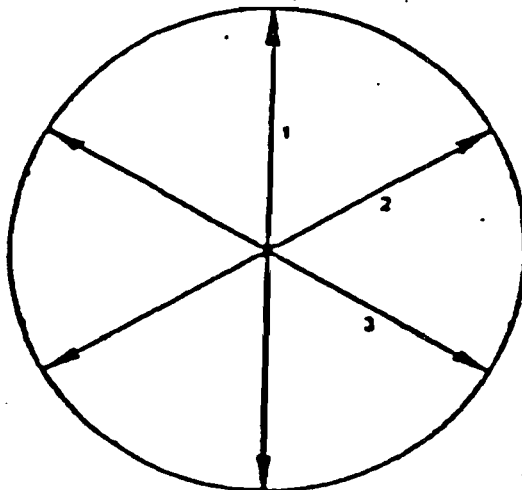
Date 3-30-01

<u>Measurement No.</u>	<u>Inside Diameter (inches)</u>
<u>1</u>	<u>0.240</u>
<u>2</u>	<u>0.240</u>
<u>3</u>	<u>0.240</u>

Average 0.240

Area of Nozzle 0.000314 Ft²

Calibrated by: E. Williams



Nozzle X-section

GMAP Special Test

Date ~~4-10-01~~ 4-10-01

Estimated production during test? 47 TPH

Totalizers

Beginning

Ending

Time	<u>9:06</u>	<u>10:19</u>
total Acid to reactor	<u>58548</u>	<u>66861</u>
Acid to Scrubber	<u> </u>	<u> </u>
Acid to granulator	<u> </u>	<u> </u>

Pressure Drops

Tower scrubber	<u>8.9</u>	<u>8.8</u>
Cooler scrubber	<u>12.0</u>	<u>12.2</u>
Ammonia absorber	<u>3.7</u>	<u>3.8</u>
Ammonia venturi	<u>2.3</u>	<u>2.4</u>

Scrubber Liquid Flows

Tower scrubber	<u>571</u> gpm	<u>571</u> gpm
Cooler scrubber	<u>253</u> gpm	<u>260</u> gpm
Ammonia absorber	<u>253</u> gpm	<u>261</u> gpm

Mole Ratio

Tower scrubber	<u>1.05</u>	<u>1.98</u>
Ammonia absorber	<u>1.88</u>	<u>1.90</u>

GMAP Special Test

Date 4-10-01

Estimated production during test? 47 TPH

Totalizers

Beginning

Ending

Time

10:41

11:51

^{total}
Acid to reactor

69231

77428

Acid to Scrubber

Acid to granulator

Pressure Drops

Tower scrubber

8.5

8.5

Cooler scrubber

12.1

12.2

Ammonia absorber

3.8

3.9

Ammonia venturi

2.4

2.3

Scrubber Liquid Flows

Tower scrubber

570 gpm

563 gpm

Cooler scrubber

256 gpm

255 gpm

Ammonia absorber

258 gpm

256 gpm

Mole Ratio

Tower scrubber

1.00

1.00

Ammonia absorber

.93

.91

GMAP Special Test

Date 4-10-01

Estimated production during test? 47 TPH

Totalizers

Beginning

Ending

Time

12:13

1:26

^{total}
~~Acid to reactor~~

79939

88575

Acid to Scrubber

Acid to granulator

Pressure Drops

Tower scrubber

8.6

7.9

Cooler scrubber

12.0

12.2

Ammonia absorber

4.0

3.4

Ammonia venturi

2.2

2.3

Scrubber Liquid Flows

Tower scrubber

514 gpm

570 gpm

Cooler scrubber

260 gpm

260 gpm

Ammonia absorber

261 gpm

257 gpm

Mole Ratio

Tower scrubber

.99

.97

Ammonia absorber

.90

.9

DATE 8/2/2000

8/2/2000

GAS METER TEST REPORT

U.S. AGRI-CHEMICALS

PAGE NO	METER NUMBER		MFG & SIZE	'AS FOUND' PROOF %			'AS LEFT' PROOF %			PROVED		REASON FOR TEST	INDEX READING		REMARKS
	CO NUMBER	MFG NUMBER		1.20	1.20	1.20	1.20	1.20	1.20	DATE	BY		BEFORE TEST	AFTER TEST	
61		5274892	R-275	99.8	99.9	99.9	100.0	100.0	99.9	8/2/2000	GH	PT.	1123	0000	
				1.00	1.00	1.00	1.00	1.00	1.00						
		"	"	100.0	99.9	100.0	100.0	100.0	100.0			"	"	"	
				0.80	0.80	0.80	0.80	0.80	0.80						
LAB		"	"	100.1	100.1	100.2	100.1	100.1	100.1			"	"	"	
				0.60	0.60	0.60	0.60	0.60	0.60						
		"	"	100.1	100.2	100.2	100.1	100.1	100.2			"	"	"	
				0.40	0.40	0.40	0.40	0.40	0.40						
9285E121147		"	"	100.5	100.6	100.5	100.3	100.4	100.4			"	"	"	
							100.1	100.1	100.1						
							TEST METER								
							Y DGM FACTOR 1.001								

9285E121147

10:14

03/05/2000

TESTED & REPAIRED BY PRECISION METER REPAIR INC.

SIGNED [Signature]



PRECISION METER REPAIR INC.

4410 AIRPORT ROAD

PLANT CITY, FLORIDA 33567

(813) 852-1000 FAX (813) 852-1001

STACK DATA SHEET

PROJECT No. 28-1991-99

ITEM No. 19.410

SHEET 1 OF 1

SPECIFICATION No.

FOR US Agri-Chemicals

SERVICE Scrubber Stack

SITE Fort Meade, Florida

MANUFACTURER Augusta Fibreglass

DESIGN DATA

WIND LOAD: UBC MAP AREA

SEISMIC ZONE

GAS INLET TEMPERATURE 125 °F

GAS FLOW RATE 103,600 SCFM

EFFLUX VELOCITY 58 ft/sec

DESIGN AND CONSTRUCTION

DIMENSIONS (SEE SKETCH) 9'-0" / 6'-6" Diam. 128'-0" Height

CORROSION ALLOWANCE: N/A

WALL THICKNESS (INCL. C.A.) 3/8"

WALKWAY & PLATFORM: NONE BY VENDOR BY PURCHASER

TYPE: LADDER OTHER

LINING SPECIFICATION BY VENDOR THICKNESS in

LIGHTNING PROTECTION: SPECIFICATION (Hold)

BY VENDOR BY PURCHASER

FIREPROOFING SPECIFICATION (Hold) THICKNESS in

BY VENDOR BY PURCHASER

INSULATION: SPECIFICATION None THICKNESS in

BY VENDOR BY PURCHASER

SURFACE PREPARATION: SPECIFICATION

BY VENDOR BY PURCHASER

PAINTING: SPECIFICATION None

BY VENDOR BY PURCHASER

FAB WT. lb OPERATING WT. lb TEST WT. lb

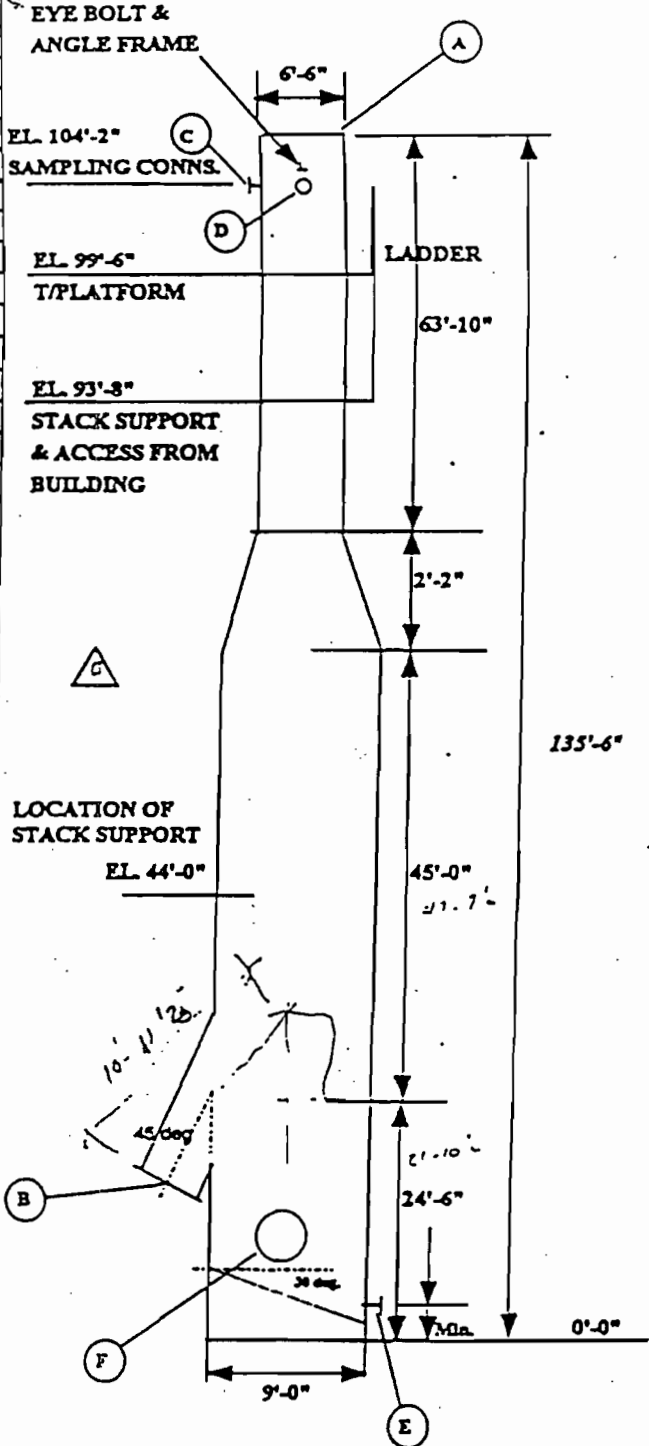
MATERIALS OF CONSTRUCTION

SHELL & BOTTOM FRP (Note 1)
Resin: Derakane 510-C or equal

LINING

NOZZLES

MARK	SERVICE	QTY	SIZE	RATING	FACING
A	Efflux	1	6'-6"	N/A	N/A
B	Inlet	1	8' x 5'	N/A	FF
C	Spare - Screwed Cap	1	2"	N/A	Screwed
D	Spare - Screwed Cap	1	2"	N/A	Screwed
E	Drain	1	1"	150#	FF
F	Manway	1	24"	N/A	PF



REMARKS:

* INDICATES INFORMATION TO BE FURNISHED BY VENDOR

REV/DATE	A / 07-01-95	B / 07-01-95	O / 12-19-95	/
PREP/DATE	KR / 07-01-95	JME / 07-01-95	KR / 07-01-95	/
CHKD/DATE	DRK / 07-12-95	DMI / 07-12-95	/	/
APPRO/DATE	/	/	/	/
APPRO/DATE	/	/	/	/

NOTES:

1. Stack gases contain traces of free fluorine and droplet carryover consisting up to 15% P2O5. The resin and reinforcing membrane should be selected accordingly.

MAP Plant Stack Test Sample Point Location			
80.5	stack diameter (inches)		
point #	distance from stack wall in inches		
1	1.69		
2	5.39		
3	9.50		
4	14.25		
5	20.13		
6	28.66		
7	51.84		
8	60.38		
9	66.25		
10	71.00		
11	75.11		
12	78.81		
2.5 minutes at each point			
Required minimum metered volume is 30 CF			
expected Flow is 100,000 CF			
expected stack temperature is 125 F			
expected stack velocity is 58 ft/sec			
PM and FL sampling train			
Also determine Ammonia emissions			

Pretest Meter Calibration

STD Meter S/N 5274892
 STD Y Calibration Factor 1.001
 Barometric Pressure 30.05
 Test Meter S/N D-580

Date: 12/19/00
 Calibrated by: E. WILLIAMS

Standard Meter					Test Meter							
Orifice ΔP H2O		STD	°F	°F		TEST	°F	°F	Clock		Manometer	
		Meter	Temp.	Temp.		Meter	Temp.	Temp.	Time in		Reading inches of	
		Cu. Ft.	Inlet	Outlet		Cu. Ft.	Inlet	Outlet	min.	secs.	H2O	Hg
0.2	Start	63.373	76	76	Start	236.545	80	81	7	49.18	0.25	0.018
	Stop	65.374	76	76	Stop	238.552	80	81				
	Total cu.ft.	2.001			Total cu.ft.	2.007						
	avg.temp	536			avg.temp	540.5						
					Minutes	7.820						
0.8	Start	65.374	77	76	Start	238.552	81	82	9	47.08	0.7	0.051
	Stop	70.377	78	77	Stop	243.626	82	83				
	Total cu.ft.	5.003			Total cu.ft.	5.074						
	avg.temp	537			avg.temp	542						
					Minutes	9.785						
1.8	Start	70.377	78	77	Start	243.626	83	85	6	43.22	1.2	0.088
	Stop	75.378	78	77	Stop	248.717	85	86				
	Total cu.ft.	5.001			Total cu.ft.	5.091						
	avg.temp	537.5			avg.temp	544.75						
					Minutes	6.720						
3.4	Start	75.378	78	77	Start	248.717	85	86	9	58.6	2	0.147
	Stop	85.382	78	77	Stop	258.893	87	89				
	Total cu.ft.	10.004			Total cu.ft.	10.176						
	avg.temp	537.5			avg.temp	546.75						
					Minutes	9.977						
5.0	Start	85.392	78	77	Start	258.893	87	89	8	18.92	2.8	0.206
	Stop	95.4	78	78	Stop	269.033	88	90				
	Total cu.ft.	10.008			Total cu.ft.	10.140						
	avg.temp	537.75			avg.temp	548.5						
					Minutes	8.315						
8.0	Start	95.4	78	78	Start	269.033	88	90	6	32.13	4.4	0.324
	Stop	105.32	78	78	Stop	278.855	90	90				
	Total cu.ft.	9.920			Total cu.ft.	9.822						
	avg.temp	538			avg.temp	549.5						
					Minutes	6.536						

PRETEST CALCULATIONS

Test Meter S/N D-580

Pretest "Y" Factor 0.9999

Barometric Pressure 30.05

Orifice
 ΔP
 "H₂O

		Std Meter	Test Meter	Calibration Factor
0.2	total cu. Ft.	2.001	2.007	<u>0.9933</u>
	avg. temp.	536	540.5	
	Minutes	7.820		
	In. Hg	0.018		
	ΔP In. Hg	0.015		
0.8	total cu. Ft.	5.003	5.074	<u>0.9807</u>
	avg. temp.	537	542	
	Minutes	9.785		
	In. Hg	0.051		
	ΔP In. Hg	0.059		
1.8	total cu. Ft.	5.00	5.09	<u>0.9775</u>
	avg. temp.	537.5	544.75	
	Minutes	6.720		
	In. Hg	0.088		
	ΔP In. Hg	0.132		
3.4	total cu. Ft.	10.004	10.18	<u>0.9762</u>
	avg. temp.	537.5	546.75	
	Minutes	9.977		
	In. Hg	0.147		
	ΔP In. Hg	0.250		
5.0	total cu. Ft.	10.008	10.14	<u>0.9770</u>
	avg. temp.	537.75	548.5	
	Minutes	7.820		
	In. Hg	0.206		
	ΔP In. Hg	0.368		
8.0	total cu. Ft.	9.92	9.822	<u>0.9900</u>
	avg. temp.	538	549.5	
	Minutes	6.536		
	In. Hg	0.324		
	ΔP In. Hg	0.588		

0.9824

AVG. CALIBRATION FACTOR

ORIFICE ΔP STD CONDITIONS

Barometric Pressure

30.05

0.2	avg Temp test	540.5
	avg Temp STD.	536
	Minutes	7.820
	std meter total cu.ft.	2.001

1.712619823

0.8	avg Temp test	535.5
	avg Temp STD.	532
	Minutes	10.031
	std meter total cu.ft.	5.002

1.793781945

1.8	avg Temp test	544.75
	avg Temp STD.	537.5
	Minutes	6.720
	std meter total cu.ft.	5.00

1.818506719

3.4	avg Temp test	546.75
	avg Temp STD.	537.5
	Minutes	9.977
	std meter total cu.ft.	10.004

1.884887379

5.0	avg Temp test	548.5
	avg Temp STD.	537.75
	Minutes	8.315
	std meter total cu.ft.	10.008

1.919701612

8.0	avg Temp test	549.5
	avg Temp STD.	538
	Minutes	6.536
	std meter total cu.ft.	9.92

1.929460629

1.8432
ORIFICE ΔP

ANNUAL THERMOMETER CALIBRATION CHECK

Date: 1/24/01

E. Williams, M. Connelly

S/N	Thermometer	Temp. °F	Temp. °C	*Temp. °C	Difference °C
1	Reotemp 1" Dia.	76	24.4	26.6	-2.2
2	"	74	23.3	26.6	-3.3
3	"	76	24.4	26.6	-2.2
4	"	74	23.3	26.6	-3.3
1	Reotemp 2" Dia.	68	20.0	24.2	-4.2
2	"	71	21.7	24.2	-2.5
3	"	75	23.9	24.2	-0.3
4	"	72	22.2	24.2	-2.0
D-580	Stack Sampler				
"	in	69	21.0	24.0	-3.0
"	out	69	21.0	24.0	-3.0
31D639C	Stack Sampler				
"	in	69	21.0	24.0	-3.0
"	out	69	21.0	24.0	-3.0
5	Weksler 3" Dia.	80	26.7	26.6	0.1
2	Cole-Parmer 3" Dia.	76	24.4	25.2	-0.8
1	"	70	26.7	26.6	0.1
8	Weksler 3" Dia.	79	26.1	26.6	-0.5
9	Weksler 3" Dia.	76	24.4	26.6	-2.2
5274892	Test Meter, Dry Gas				
"	in	75	23.9	26.6	-2.7
"	out	75	23.9	26.6	-2.7
63145007	Oroin, Model 842		24.9	25.0	-0.1
96048186	YSI 3500		59.0	60.0	-1.0
125mm	Fisher USA		68.0	68.0	0.0
15-0434	FisherBrand		25.4	26.0	-0.6
14-983-108	FisherBrand		26.2	26.0	0.2
78mm	J.L. Shortz		25.3	26.0	-0.7
777	YSI Model 33		21.0	23.5	-2.5
12	Curtis Matheson		34.0	35.0	-1.0
10	Weksler 3" Dia.	77	25.0	26.0	-1.0
11	Weksler 3" Dia.	79	26.0	26.0	0.0
13	Weksler 3" Dia.	79	26.0	26.0	0.0
195F01814	ISCO 4230 Flowmeter		15.6	15.0	0.6
11639-028	ISCO 4230 Flowmeter		2.5	3.0	-0.5
14	Cole-Parmer 3" Dia.	78	25.6	25.8	-0.2
15 **	TREND 3" dia. 18"stem	78	25.5	25.2	0.3
13-246	Fisher USA		66.0	66.3	-0.3

Tolerance

Bimetallic Thermometer +/- 5 degrees

Liquid in glass thermometer +/- 2%

* Calibrated thermometer, certified and traceable to NIST

S/N HB/B-28249, Calibrated on 2/3/2000

** #15 Trend thermometer purchased on 02/22/01

Post Test Meter Calibration

STD Meter S/N 5274892

Date: 4/17/01

STD Y Calibration Factor 1.001

Calibrated by: E.williams

Barometric Pressure 30.09

Test Meter S/N D-580

Test Meter Cal. Factor 0.9824

Standard Meter					Test Meter							
Orifice Δ P H2O		STD	°F	°F		TEST	°F	°F	Clock		Manometer	
		Meter	Temp.	Temp.		Meter	Temp.	Temp.	Time in		Reading inches of	
		Cu. Ft.	Inlet	Outlet		Cu. Ft.	Inlet	Outlet	min.	secs.	H2O	Hg
3.05	Start	183.343	72	72	Start	343.310	78	78	5	16.14	1.8	0.132
	Stop	188.349	72	72	Stop	348.490	79	79				
	Total cu.ft.	5.0060			Total cu.ft.	5.180						
	avg.temp	532			avg.temp	538.5						
					Minutes	5.269						
3.20	Start	188.349	72	73	Start	348.490	80	80	10	13.95	1.9	0.140
	Stop	198.363	72	73	Stop	358.878	81	82				
	Total cu.ft.	10.014			Total cu.ft.	10.388						
	avg.temp	532.5			avg.temp	540.75						
					Minutes	10.233						
3.50	Start	198.363	73	73	Start	358.878	81	83	9	48.21	2.05	0.151
	Stop	208.364	73	73	Stop	369.258	83	84				
	Total cu.ft.	10.001			Total cu.ft.	10.380						
	avg.temp	533			avg.temp	542.75						
					Minutes	9.804						

POST TEST CALCULATIONS

Date: 4/17/01

Technician: E.williams

Test Meter S/N D-580

Test Meter Cal. Factor 0.9824

Pretest "Y" Factor 1.001

Barometric Pressure 30.09

Orifice
 Δ P
 In. H₂O

		Std Meter	Test Meter
3.05	total cu. Ft.	5.006	5.18
	avg. temp.	532	538.5
	Minutes	5.269	
	In. Hg	0.132	
	Δ P In. Hg	0.224	

Calibration
 Factor

0.9677

		Std Meter	Test Meter
3.2	total cu. Ft.	10.014	10.388
	avg. temp.	532.5	540.75
	Minutes	10.233	
	In. Hg	0.140	
	Δ P In. Hg	0.235	

0.9678

		Std Meter	Test Meter
3.5	total cu. Ft.	10.00	10.38
	avg. temp.	533.00	542.75
	Minutes	9.804	
	In. Hg	0.151	
	Δ P In. Hg	0.257	

0.9689

0.9681

AVG. CALIBRATION FACTOR

Tolerance + or - 5%

min. 0.9333

max. 1.0315

ORIFICE dP STD CONDITIONS

Date:	4/17/01
Barometric Pressure	30.09
Test Meter S/N	D-580
Calibrated by:	E.williams

3.05	avg Temp test	538.5	<u>1.870893979</u>
	avg Temp STD.	532	
	Minutes	5.27	
	std meter total cu.ft.	5.006	

3.2	avg Temp test	540.75	<u>1.845772118</u>
	avg Temp STD.	532.5	
	Minutes	10.23	
	std meter total cu.ft.	10.014	

3.5	avg Temp test	542.75	<u>1.854535523</u>
	avg Temp STD.	533	
	Minutes	9.80	
	std meter total cu.ft.	10.001	

1.8571
ORIFICE ΔP

Best Available Copy

Visible Emission Observation Form

SOURCE NAME USAGRI-CHEMICALS			OBSERVATION DATE 4-10-01			START TIME 1340		STOP TIME 1410									
ADDRESS 3725 STATE RD. 130 W			SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
CITY FT. MEADE			STATE FL		ZIP 33834		1	31									
PHONE 813-285-7173			SOURCE ID NUMBER 1050051-008 AC		2	32											
PROCESS EQUIPMENT GMAP			OPERATING MODE 100%		3	33											
CONTROL EQUIPMENT WET SCRIBBER			OPERATING MODE 100%		4	34											
DESCRIBE EMISSION POINT START 6.71' DIA. STACK STOP SAME			5	35													
HEIGHT ABOVE GROUND LEVEL START 35.6' STOP 135.6'		HEIGHT RELATIVE TO OBSERVER START 129.6' STOP 129.6'		6	36												
DISTANCE FROM OBSERVER START 250' STOP 250'		DIRECTION FROM OBSERVER START NW STOP NW		7	37												
DESCRIBE EMISSIONS START CONTINUOUS WHITE SMOKE STOP SAME			8	38													
EMISSION COLOR START WHITE STOP SAME		PLUME TYPE CONTINUOUS <input type="checkbox"/>		9	39												
		FUGITIVE <input type="checkbox"/> INTERMITTENT <input type="checkbox"/>		10	40												
WATER DROPLETS PRESENT NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>		IF WATER DROPLET PLUME ATTACHED <input checked="" type="checkbox"/> DETACHED <input type="checkbox"/>		11	41												
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START AT THE VERY END STOP SAME			12	42													
DESCRIBE BACKGROUND START BLUE SKY STOP SAME			13	43													
BACKGROUND COLOR START BLUE STOP BLUE		SKY CONDITIONS START CLEAR STOP SAME		14	44												
WIND SPEED START 4.8 MPH STOP SAME		WIND DIRECTION START SW STOP SW		15	45												
AMBIENT TEMP START 87°F STOP SAME		WET BULB TEMP		16	46												
		RH. percent		17	47												
18			48														
19			49														
20			50														
21			51														
22			52														
23			53														
24			54														
25			55														
26			56														
27			57														
28			58														
29			59														
30			60														
AVERAGE OPACITY FOR HIGHEST PERIOD						NUMBER OF READINGS ABOVE % WERE											
RANGE OF OPACITY READINGS						MINIMUM						MAXIMUM					

Source Layout Sketch Draw North Arrow

Sun → Wind — Plume and = Stack Observers Position

140°

Sun Location Line

COMMENTS

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS

SIGNATURE _____ DATE _____

TITLE _____



State of Florida
Department of Environmental Protection

This is to Certify That **EUGENE WILLIAMS**

has completed the STATE OF FLORIDA visible emissions evaluation training and is a qualified observer of visible emissions as specified by EPA reference method 9.

This Certificate Expires **Aug 16, 2001**

Certificate Officer
 Eugene Williams
 Bear's Signature

ATTACHMENT 2

REQUEST FOR USE OF DUST SUPPRESANT



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

KA 173-00-02

MEMORANDUM

TO: Jerry Girardin, USAC

FROM: Pradeep Raval

DATE: February 14, 2001

SUBJECT: Certification for Product Loadout
Ft. Meade Granular MAP/DAP Loadout
Revision to Construction Permit 1050051-008-AC
and Title V Permit 1050051-003-AV

Enclosed is the certification associated with the above construction permit and Title V permit revision allowing the use of a dust suppressant in place of the existing baghouse located in the Ft. Meade Granular MAP/DAP Loadout.

The certification format is based on the previous submittal to FDEP for the Bartow facility.

Please have Mr. Phong Vo sign and date Page 3 of the form. Submit the original certification to FDEP and keep a copy for your files.

If you have any questions, please call me.

Par
encl.

EVALUATION OF PROPOSED DUST CONTROL PROJECT
USAC – FT. MEADE GRANULAR MAP/DAP LOADOUT

Construction Permit No. 1050051-008-AC
Title V Permit No. 1050051-003-AV

Introduction

USAC proposes to use oiling of Granular MAP/DAP (initially permitted as prilled) product for dust suppression as an alternative to the use of the existing baghouse. There will be no change to the allowable emissions (5 percent opacity). For the purposes of this evaluation, however, the potential particulate matter emissions from using dust suppressant oil are compared to the emissions from the existing baghouse.

Emissions Estimates

The current allowable emissions from the loadout operation are based on a visible emissions limitation of 5 percent opacity. The mass emissions can be estimated as follows:

Air Flow Rate = 6,000 cfm
Exit Grain Loading = 0.02 gr/cf (assumed based on typical baghouse performance)

The particulate matter emissions are estimated as follows:

$$\begin{aligned} \text{PM} &= 0.02 \text{ gr/cf} \times 6,000 \text{ cfm} \times 60 \text{ min/hr} \times \text{lb}/7000 \text{ gr} \\ &= 1.0 \text{ lb/hr} \end{aligned}$$

This evaluation addresses emissions from product loadout only as all other transfer operations occur inside a building. The potential emissions from the oiling operation can be estimated using equation 1 and tabulated values from Chapter 13.2.4 of AP-42 (emission factors for aggregate handling), given the following information:

The maximum material transfer rate is 150 tph.
Loadout area is enclosed except for two open sides for vehicular access.
Loadout uses telescoping material discharge chute maintained about two feet above railcar.
Average wind speed, given the loadout area configuration, is assumed to be about 5 mph.
Product silt content is less than 0.1 percent.
Product moisture content is 1.5 percent, on average.

$$E = k \times 0.0032 \times (U/5)^{1.3} \times 1/(M/2)^{1.4}$$

Where: E = emission factor, lb/ton
k = particle size multiplier (use 0.74 for conservative estimate)
U = mean wind speed, mph (use 5 mph avg.)
M = material moisture % (use 1.5 % avg.)

$$E = 0.74 \times 0.0032 \times (5/5)^{1.3} \times 1/(1.5/2)^{1.4} = 0.0035 \text{ lb/ton}$$

AP-42 states that chemical wetting agents can reduce PM emissions by up to 90%. This level of control is assumed for the purposes of this evaluation as oil is expected to be a better dust suppressant than most chemical wetting agents. The particulate matter emissions can, therefore, be estimated as follows:

$$PM = 0.0035 \text{ lb/ton} \times 150 \text{ tons/hr} \times (1-0.9) = 0.1 \text{ lb/hr}$$

The above calculations indicate that the use of the dust suppressant oil will result in lower PM emissions than the existing baghouse. Therefore, it is requested that the construction permit and the Title V permit be amended to allow product oiling as an alternate method of dust control. It is requested that the permit allow the use of either oiling or the baghouse for controlling PM from the loadout operation.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Phong T. Vo, General Manager of Engineering and Technical Services
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Same as Above Street Address: City: State: Zip Code:
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (863) 285-8121 Fax: (863) 285-7088
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i> _____ Signature SIGNED Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler and Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

(seal)

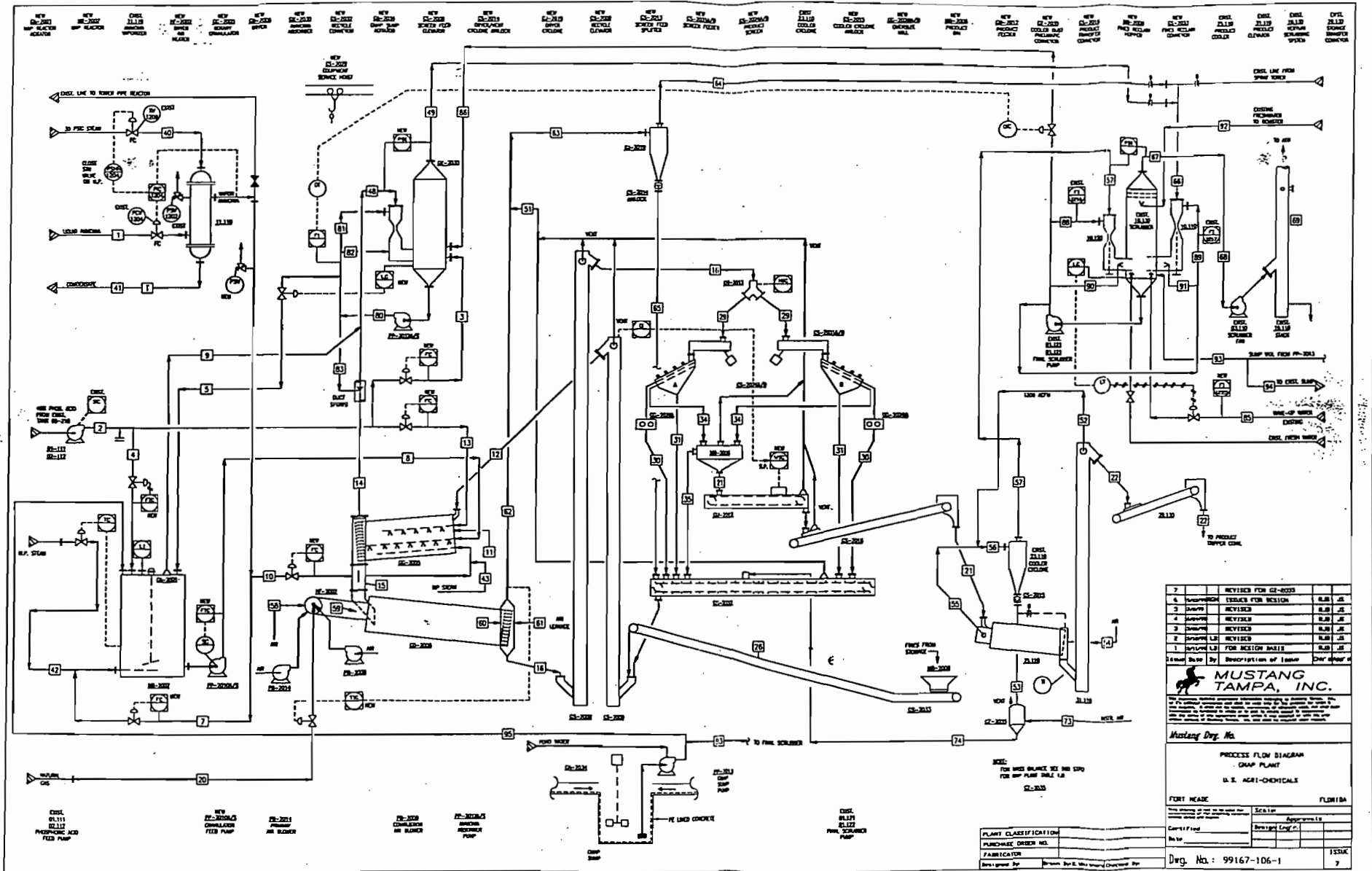
Date

* Attach any exception to certification statement.

ATTACHMENT 3

PROCESS FLOW DIAGRAM

Best Available Copy



7	REVISED FOR 02-0003	0.00	JL
6	REVISIONS ISSUES FOR DESIGN	0.00	JL
5	REVISED	0.00	JL
4	REVISED	0.00	JL
3	REVISED	0.00	JL
2	REVISED	0.00	JL
1	REVISED FOR DESIGN BASE	0.00	JL

MUSTANG TAMPA, INC.

Mustang Dry. Co.

**PROCESS FLOW DIAGRAM
GRAP PLANT
U.S. ACRI-CHEMICALS**

FORT WEADE FLORIDA

Scale: _____

Contract No. _____

Sheet No. _____

Drawn By: _____

Checked By: _____

Issue No. 99167-106-1

Page 7

ATTACHMENT 4

P.E. CERIFICATION

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

(seal)

Date

11/13/01

* Attach any exception to certification statement.

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

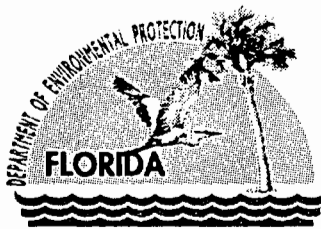
7000 2670 0000 7028 2751

Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To
Phong T. Vo

Street, Apt. No.; or PO Box No.
3225 State Road 630 West

City, State, ZIP+ 4
Ft. Meade, FL 33841-9799



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

October 29, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo, General Manager of
Engineering and Technical Services
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9799

Re: DEP File No. 1050051-015-AC; PSD-FL-321
Granular MAP/DAP Production Increase
Ft. Meade Chemical Plant

Dear Mr. Vo:

The Department received additional information on August 28, 2001 in response to the request for information letter dated June 5, 2001. Additionally, a waiver of the 30-day review period was received on September 27, 2001 granting the 30-day review period to be extended to October 31, 2001. Based on our review of the submitted information, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

1. The initial request for information letter asked for submission of a detailed test report for the April 10, 2001 stack test. A one page summary executive summary was submitted in your response. Please submit a detail test report for this stack test.
2. Please explain the reasons for not including the loadout PM emissions in the previous minor source permit (1050051-008-AC) issued by the District. If the PM emissions have to be separated between the MAP/DAP Plant and the loadout section, explain the basis of using 0.02 gr/cf emission factor for the loadout section. The recent PM BACT limit established for baghouses is 0.012 gr/cf.
3. Please submit a process flow diagram to show the set-up of the control equipments being utilized for control of the fluoride and PM emissions from the MAP/DAP plant. The process flow diagram that was submitted with the application is very difficult to discern especially the control equipments and the air flows.

Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application.

"More Protection, Less Process"

Printed on recycled paper.

Mr. Phong T. Vo
June 5, 2001
Page 2 of 2

Please note that in accordance with Rule 62-4.055(1), "The applicant shall have **ninety days** after the Department mails a timely request for additional information to submit that information to the Department..... Failure of an applicant to provide the timely requested information by the applicable date **shall** result in denial of the application."

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. is responsible for the technical review of the application. He may be contacted at 850/921-9528.

Sincerely,

Handwritten signature of A.A. Linero in cursive, with the date 10/29 written to the right.

A.A. Linero, P.E. Administrator
New Source Review Section

AAL/sa

cc: G. Worley, EPA
J. Bunyak, NPS
B. Thomas, DEP-SWD
J. Koogler, Ph.D., P.E. Koogler & Associates



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ■ FAX/377-7158

KA 173-01-01

September 26, 2001

RECEIVED

SEP 27 2001

BUREAU OF AIR REGULATION

Mr. Syed Arif, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Waiver of 30-day Review Period
File No. 1050051-015-AC, PSD-FL-321
US Agri-Chemicals

Dear Mr. Arif:

Enclosed is a waiver of the 30-day permit application review period for the above referenced project. This waiver will expire on October 31, 2001.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

WAIVER OF 30 DAY TIME LIMIT
UNDER SECTIONS 120.60(1) AND 403.0876, FLORIDA STATUTES

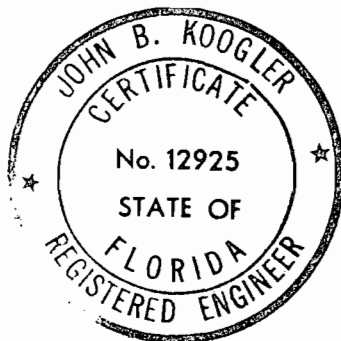
License (Permit, Certification) Application No. 1050051-015-AC, PSD-FL-321


Applicant's Name: US Agri-Chemicals

With regard to the above referenced application, the applicant hereby with full knowledge and understanding of applicant's rights under Sections 120.60(1) and 403.0876, Florida Statutes, waives the right to have the application reviewed by the State of Florida Department of Environmental Protection within the 30 day time period prescribed by law. Said waiver is made freely and voluntarily by the applicant, with full knowledge, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Protection.

This waiver shall expire on the 31st day of October, 2001.

The undersigned is authorized to make this waiver on behalf of the applicant.



Signature _____


John B. Koogler, Ph.D., P.E.
Engineer of Record



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

PROJECT 173-01-01

RECEIVED

SEP 26 2001

FAX TRANSMITTAL FORM

BUREAU OF AIR REGULATION

TO: Syed Arif
BAR, FDEP

FAX NO. _____
FROM: Pradeep Raval
DATE: 9/26/01 SENT BY: R

The text being transmitted consists of 2 page(s) PLUS this one. If you do not receive all of the pages or if there are difficulties with this transmission, please call (352) 377-5822.

REMARKS: Per our conversation, attached
is waiver of 30-day period. Original
is being sent out regular mail.
TX.
R

This message is intended for use only by the individual to whom it has been addressed and may contain confidential or privileged information. If you are not the intended recipient, please note that the use, copying or distribution of this information is not permitted. If you have received this FAX in error, please destroy the original and notify the sender immediately at (352) 377-5822 so that we may prevent any recurrence. Thank you.



KOUGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

KA 173-01-01

September 26, 2001

Mr. Syed Arif, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Waiver of 30-day Review Period
File No. 1050051-015-AC, PSD-FL-321
US Agri-Chemicals

Dear Mr. Arif:

Enclosed is a waiver of the 30-day permit application review period for the above referenced project. This waiver will expire on October 31, 2001.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOUGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

**WAIVER OF 30 DAY TIME LIMIT
UNDER SECTIONS 120.60(1) AND 403.0876, FLORIDA STATUTES**

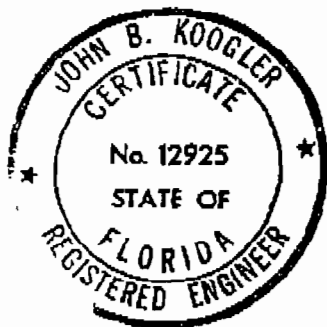
License (Permit, Certification) Application No. 1050051-015-AC. PSD-FL-321

Applicant's Name: US Agri-Chemicals

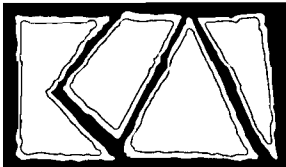
With regard to the above referenced application, the applicant hereby with full knowledge and understanding of applicant's rights under Sections 120.60(1) and 403.0876, Florida Statutes, waives the right to have the application reviewed by the State of Florida Department of Environmental Protection within the 30 day time period prescribed by law. Said waiver is made freely and voluntarily by the applicant, with full knowledge, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Protection.

This waiver shall expire on the 31st day of October, 2001.

The undersigned is authorized to make this waiver on behalf of the applicant.



[Handwritten Signature]
Signature
John B. Koogler, Ph.D., P.E.
Engineer of Record



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ■ FAX/377-7158

KA 173-01-01

August 24, 2001

RECEIVED

AUG 28 2001

BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Response to FDEP request for Additional Information
Granular MAP/DAP Production Increase
US Agri-Chemicals, Ft. Meade Chemical Plant
DEP File No. 1050051-015-AC, PSD-FL-321

Dear Mr. Linero:

This is in response to your letter dated June 5, 2001, requesting additional information on the above referenced project. The responses are in the order of the issues raised by FDEP.

1. The application form addresses the maximum operation rate and the maximum emission rates for the plant, corresponding to 60 tph MAP/DAP production. For MAP production, these rates are 31.8 tph P₂O₅ input with corresponding fluoride emission limits of 1.18 lb/hr and 5.2 tpy. For DAP production, these rates are 28.2 tph P₂O₅ input and fluoride emission limits of 1.04 lb/hr and 4.6 tpy. The MAP/DAP plant fluoride emission factor presented in the permit application is 0.037 lb/ton P₂O₅ input. Please note that the application form addresses only the proposed modification, as suggested by FDEP.
2. Initial compliance testing was not conducted for DAP production as there was no DAP manufactured. It is our understanding that FDEP does not require the production of a particular product just for testing purposes. The results of the GMAP stack tests conducted on February 27, 2001 and April 10, 2001, are presented in Attachment 1.
3. While emission estimates have previously been submitted in a PSD application to FDEP for the two PM emitting operations, the tower and the loadout, the resulting PSD permit appropriately identified a mass emission limits for just one operation, the tower. The loadout operation has a visible emissions limitation. The mass emission limitation for the tower was subsequently revised in permit 1050051-008-AC. For the purposes of estimating PM emissions resulting from the proposed project, however, emissions from both operations had to be presented.

4. The hours of operation for calculating actual emissions were estimated based on an allowance of the plant being down for around 1594 hours (based on a similar plant at another facility), as a worst-case scenario. Alternatively, 8760 hours of operation could have been used in calculating actual emissions for the purposes of this application (as the plant is still operating under the construction permit), however, that would be a less conservative assumption.

5. An explanation is provided for each of the following emissions rates:

Currently Permitted PM, GMAP/DAP = 8.38 lb/hr (1.06 g/s), based on current permit.
Estimated Actual PM, GMAP/DAP = 6.98 lb/hr (0.88 g/s), based on recent test.
Proposed PM, GMAP/DAP = 10.2 lb/hr (1.29 g/s), based on requested limit.
Max. Potential Plant PM (Prill MAP) = 24 lbs/hr (3.02 g/s), based on PSD-FL-222.

The application contemplated a 20 percent increase in the permitted PM emissions to correspond to the 20 percent increase in permitted production rate. The slight difference results from rounding the PM emission factor, from 0.1676 to 0.17 lb/ton product.

The significant impact modeling for PM did not address the emission changes for GMAP/DAP because the plant's maximum potential emissions (required for the modeling) occur when the plant produces prilled product. The proposed project has been re-modeled based on the input data agreed to in the telephone conversations between Pradeep Raval, Syed Arif, Cleve Holladay and Stan Krivo.

6. The stack height initially proposed and modeled for the Prilled MAP Plant under PSD-FL-222 was 21.95 meters. The stack height, as constructed, is 41.3 meters. This change was relayed to FDEP upon completion of construction. However, no revised modeling was conducted at that time to document the revision to the PM increment changes. In order to document this change for the state's PSD inventory, the recent modeling for PM contained two sets of stack characteristics. Presently, the proposed project has been re-modeled, as discussed above.

Mr. A.A. Linero
Florida Department of
Environmental Protection

August 24, 2001

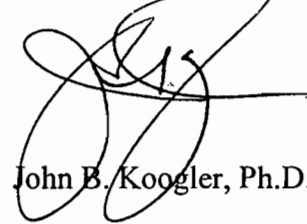
7. A summary of the revised modeling, based on the additional receptors requested by FDEP, is presented in Attachment 2. The additional receptors selected are located within the USAC property boundary thus providing a conservative analysis. A detailed discussion was previously submitted to FDEP justifying the actual USAC property boundary as precluding access to the general public. As FDEP has reviewed and approved that fence-line protocol, additional details are not presented herein.

The revised modeling resulted in maximum predicted PM impacts below the significant impact levels. The maximum predicted fluoride impacts were below the de-minimus level (see Attachment 2).

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

S. Arif ✓
C. Holladay ✓
B. Thomas, SWD ✓
J. Worley, EPA ✓
G. Bunnick, NPS ✓

ATTACHMENT 1
COMPLIANCE TEST DATA

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions		
Permitted	Actual	
0.98	0.52	lbs of fluorides per hour;
0.037	0.021	lbs of fluorides per ton of equivalent P2O5 feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average			
25.0	Feedrate (tons P2O5/hr)		
47.1	Production rate (tons GMAP/hr)		
Scrubber	Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NH3 Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 27-Feb-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions		
Permitted	Actual	
0.98	0.27	lbs of fluorides per hour;
0.037	0.011	lbs of fluorides per ton of equivalent P2O5 feed
8.38	5.96	lbs of particulates per hour
0.168	0.120	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average			
26.1	Feedrate (tons P2O5/hr)		
49.7	Production rate (tons GMAP/hr)		
Scrubber	Delta P	Flow	Mole Ratio
Tower	18.6	953	0.99
Cooler	25.6	284	NA
NH3 Abs.	5.15	393	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Analytical Worksheet

27-Feb-01 Date
 GMAP Plant

Fluorine content of stack gas

Run 1	Run 2	Run 3	
1,000	1,000	1,000	V_i = Total volume of impinger wash after final dilution (ml)
1,000	1,000	1,000	V_w = Total probe wash after final dilution (ml)
1,000	1,000	1,000	V_f = Total volume of filter wash after final dilution (ml)
0.41	0.61	0.89	C_i = Concentration of fluorine in impinger wash sample (mg/l)
0.10	0.08	0.07	C_w = Concentration of fluorine in probe wash (mg/l)
0.34	0.51	0.57	C_f = Concentration of fluorine in filter wash sample (mg/l)
0.85	1.20	1.53	F_t = Total fluoride recovered (mg) = $(V_i * C_i + V_w * C_w + V_f * C_f) / 1,000$ (ml/l)
43.28	42.69	42.15	V_{mstd} = dry gas volume @stp
0.0196	0.0281	0.0363	C_f = Concentration of fluorine in stack gas (mg/dscf) = F_t / V_{mstd}
0.20	0.28	0.35	F_h = lbs F _l /hr = C_f (mg/dscf) Q_{sd} (dscf/m) 2.205 eex-6 (lb/mg) 60 (m/h)
0.0075	0.0106	0.0135	F_t = lbs F _l /ton P ₂ O ₅ feed = F_h (lbs F _l /hr) / Feedrate (tons P ₂ O ₅ /hr)
		0.2745	F_h ave lbs F _l /hr
		0.0105	F_t ave lbs F _l /ton P ₂ O ₅ feed

Particulate content of stack gas

Run 1	Run 2	Run 3	
0.0222	0.0244	0.0311	M_n = Mass of particulate matter collected (gm)
43.28	42.69	42.15	V_{mstd} = dry gas volume @stp
0.00051	0.00057	0.00074	C_p = Particulate concentration (g/dscf) = $(0.001 \text{ g/mg}) (M_n / V_{mstd})$
75,195	74,151	73,380	Q_{sd} (dscf/m)
5.10	5.61	7.16	Particulates (lb/h) = C_p (g/dscf) 2.205 eex-3 (lb/g) Q_{sd} (dscf/m) 60 (m/h)
0.1061	0.1110	0.1422	Particulates lbs/ton GMAP
		5.96	Particulates lbs/hr (ave)
		0.1197	Particulates lbs/ton GMAP (ave)

P₂O₅ feed rate calculation (tons P₂O₅/hr)

	Start		Stop		52% Feed to Reactor		Analyses		Feedrate P ₂ O ₅ (tph)	GMAP % P ₂ O ₅	GMAP Tons
	Time	Totalizer (gallons)	Time	Minutes	Totalizer (gallons)	Feedrate (gpm)	Specific Gravity	%P ₂ O ₅			
Run 1	9:04	51500	10:15	71.00	59680	115.2	1.692	51.96	25.3	51.92	48.1
Run 2	10:30	61296	11:42	72.00	70004	120.9	1.692	51.96	26.6	51.92	50.5
Run 3	12:35	76382	13:45	70.00	84826	120.6	1.692	51.96	26.5	51.92	50.4

$$\text{Feedrate} = 8.34 \text{ (lb/gal)} * \text{spgr (lb feed/lb)} * \text{gpm (gal/m)} * \%P_{2O_5} \text{ (lbs P}_{2O_5}\text{/lb feed)/100} * 60 \text{ (m/h)} * 1/2000 \text{ (t/lb)}$$

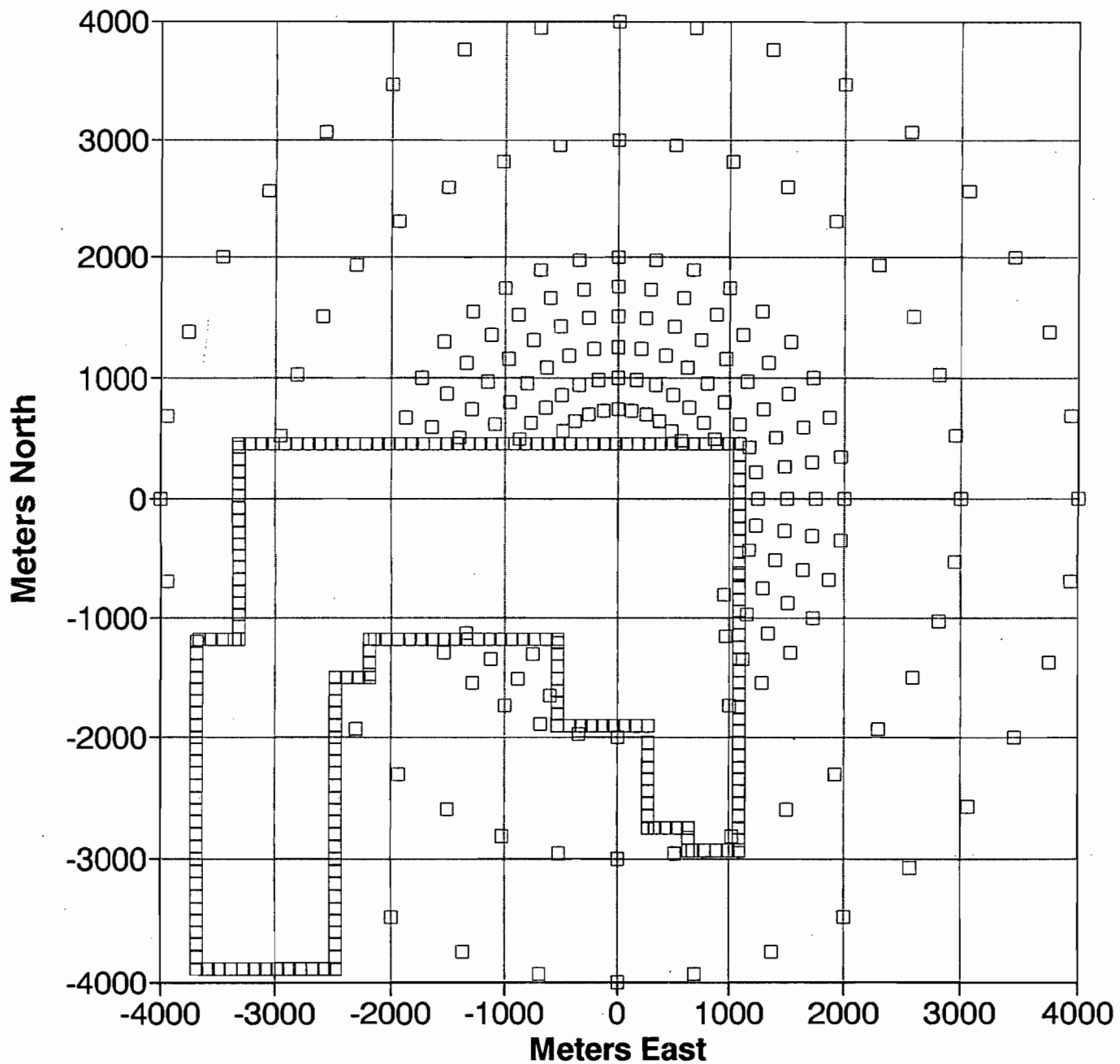
Total Feedrate

	P ₂ O ₅ (tph)	GMAP (tph)
Run 1	25.3	48.1
Run 2	26.6	50.5
Run 3	26.5	50.4
Average	26.1	49.7

ATTACHMENT 2
REVISED MODELING INFORMATION
(DISK ENCLOSED)

FIGURE 4-1

USAC DAP/MAP Plant Modeling Receptors



Revised 8/01

TABLE 4-1 (REVISED 8/01)
 AIR QUALITY MODELING PARAMETERS
 MAP/DAP PLANT

<u>Emission Unit</u>	<u>Stack</u>		<u>Stack Gas</u>		<u>Emissions</u> (g/s)
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	
<u>Particulate Matter</u>					
Tower (1)	41.30	2.05	15.81	338	1.06
Tower (2)	41.30	2.05	15.81	338	3.02
Loadout (3)	15.24	0.37	26.90	300	0.54
Loadout (4)	15.24	0.37	26.90	300	0.54
<u>Fluorides</u>					
Tower (5)	41.30	2.05	15.81	338	0.095
Tower (6)	41.30	2.05	15.81	338	0.148

NOTES:

- (1) The emission rate reflects the present allowable limit for the GMAP/DAP plant, as there is a high probability for it based on past test data.
- (2) The worst-case conditions reflect plant in prilled product operation.
- (3) The worst-case conditions modeled reflect past loadout operation (modeled before).
- (4) The worst-case conditions modeled reflect loadout operation future potential emission rate.
- (5) The emission rate is based on a high probability for it based on past test data.
- (6) The worst-case conditions modeled reflect granular product operation as proposed.
- (7) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2 (REVISED 8/01)

SUMMARY OF SIGNIFICANT IMPACT ANALYSIS

MAP/DAP PLANT

MET. DATA	CLASS I AREA IMPACTS (1)		CLASS II AREA IMPACTS (1)		
	PM		F	PM	
	24-HR	ANNUAL	24-HR	24-HR	ANNUAL
1987	0.032	0.001	0.06	2.24	0.23
1988	0.032	0.002	0.06	2.26	0.18
1989	0.036	0.002	0.07	2.52	0.25
1990	0.031	0.001	0.06	2.24	0.22
1991	0.030	0.001	0.06	2.23	0.19
MAXIMUM	0.036	0.002	0.07	2.52	0.25
DI-MINIMUS (2)	NA	NA	0.25	10	NA
SIG. IMPACT (2)	0.3	0.2	NA	5	1

NOTE:

- (1) The impacts represent the highest-high impact.
- (2) As defined in Rule 62-212, FAC.
- (3) The impacts are based on the difference between the plant as re-modeled (see Table 4-1).

THIS DISK CONTAIN PARTICULATE MATTER (PM) AND FLUORINE MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS AND BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

C2-ASI	EXE	148,469	08-24-01	PM CLASS 2 AREA SIA ANALYSIS
C1-ASI	EXE	42,577	08-24-01	PM CLASS 1 AREA SIA ANALYSIS
FLUORINE	EXE	116,945	08-24-01	FLUORINE DEMINIMUS ANALYSIS
BPIP-01	EXE	20,062	03-29-01	BUILDING DOWNWASH CALCULATIONS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE PM ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:
C2-SIA AND PRESS ENTER.

THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES IN ASCII FORMAT DESCRIBED AS FOLLOWS:

CLASS 2 AREA IMPACT ANALYSIS:

C2ASI-87	OUT	245,584	08-22-01	IMPACT ANALYSIS FOR 1987
C2ASI-88	OUT	245,584	08-22-01	IMPACT ANALYSIS FOR 1988
C2ASI-89	OUT	245,584	08-22-01	IMPACT ANALYSIS FOR 1989
C2ASI-90	OUT	245,584	08-22-01	IMPACT ANALYSIS FOR 1990
C2ASI-91	OUT	245,584	08-22-01	IMPACT ANALYSIS FOR 1991

CLASS 1 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES:

C1ASI-87	OUT	40,892	08-22-01	IMPACT ANALYSIS FOR 1987
C1ASI-88	OUT	40,758	08-22-01	IMPACT ANALYSIS FOR 1988
C1ASI-89	OUT	40,758	08-22-01	IMPACT ANALYSIS FOR 1989
C1ASI-90	OUT	40,758	08-22-01	IMPACT ANALYSIS FOR 1990
C1ASI-91	OUT	40,758	08-22-01	IMPACT ANALYSIS FOR 1991

FLUORINE IMPACT ANALYSIS:

FL87	OUT	200,062	08-22-01	IMPACT ANALYSIS FOR 1987
FL88	OUT	199,928	08-22-01	IMPACT ANALYSIS FOR 1988
FL89	OUT	199,928	08-22-01	IMPACT ANALYSIS FOR 1989
FL90	OUT	199,928	08-22-01	IMPACT ANALYSIS FOR 1990
FL91	OUT	199,928	08-22-01	IMPACT ANALYSIS FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-01.EXE. BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THE FOLLOWING BPIP FILES ARE PROVIDED:

USAC4SIT	INP	2,078	03-27-01	INPUT FOR SRC SOURCES
USAC4SIT	OUT	3,898	03-27-01	OUTPUT FOR SRC SOURCES
USAC4SIT	SUM	49,836	03-27-01	SUMMARY FOR SCR SOURCES

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CALL ME.

AUGUST 24, 2001

MARK KOLETZKE, P.E.

KOGLER AND ASSOCIATES

(352) 377-5822

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0026 4129 8719

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Total Postage & Fees	\$	

Recipient's Name (Please Print Clearly) (to be completed by mailer)
Mr Phong T. Vo
Street, Apt. No., or PO Box No.
3225 State Rd 630 West
City, State, ZIP
Ft. Meade, FL 33841-9799



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

June 5, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo, General Manager of
Engineering and Technical Services
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9799

Re: DEP File No. 1050051-015-AC; PSD-FL-321
Granular MAP/DAP Production Increase
Ft. Meade Chemical Plant

Dear Mr. Vo:

The Department has received the above referenced application on May 7, 2001, for the Ft. Meade Chemical Plant in Polk County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

1. Please explain the basis for using the same fluoride emissions limit of 1.18 lb/hr and 5.2 tpy while producing either MAP or DAP. The conversion factor of the process rate should be different under the two modes, thereby giving a lower fluoride emission limit when producing DAP.
2. Please explain the reasons for not conducting an initial compliance test while producing granular DAP. The February 27, 2001 test submitted to the Department shows compliance with the MAP limit only. The application makes reference to a test done on April 10, 2001. Please submit a detail test report for this stack test.
3. Please explain if the PM/PM₁₀ emission limit of 0.168 lb/ton of product in the previous minor source permit (1050051-008-AC) issued by the District for this emission unit also included the load out section of the plant. The PSD application segregates the two areas, and thereby provides a higher PM/PM₁₀ emission limit of 0.187 for the plant.
4. Please explain the basis for projecting the operating hours to be only 7,166 for the plant. This was indicated in the Appendix A section of the application.
5. US Agri-Chemicals (USAC) proposes to increase the production rate of the granular MAP/DAP Plant from 50TPH to 60 TPH. In table 1-1 and the table in Appendix A existing actual PM emissions are estimated as 6.98 lb/hr (0.88 g/s). The allowable emission rates for the projected 60 TPH Plant are given as 10.2 lb/hr (1.29 g/s) in Appendix A. In the executive summary included in Appendix A, the permitted emission rate for the 50 TPH MAP Plant is given as 8.38 lb/hr (1.06 g/s). However, in Table 4-1 PM emissions for the MAP tower are given as 24 lb/hr (3.02 g/s) for both the existing plant and the projected plant. How did USAC arrive at these values? Please explain why the 20 percent increase in

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short-term production rates do not result in a 20 percent increase in short-term emissions. The significant impact modeling should be based on the increase in actual PM emissions from 8.38 lb/hr to 10.2 lb/hr. Please redo the modeling with the appropriate emission rates.

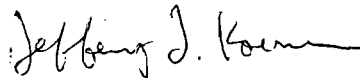
6. In Table 4-1 and in the modeling output there are discrepancies between the stack parameters (especially the stack heights) used for the existing 50 TPH particulate case and the 60 TPH particulate case. The stack height for the existing Tower is given as 21.95 meters while the stack height for the projected case is 41.30 m. However, in the fluoride case the stack heights do not change between the existing case and the projected case. Which is correct? If the stack heights are being raised, please explain the purpose of raising the stacks.
7. In Figure 4-1 and in the modeling, receptors were placed only on the eastern part of the property. Receptors should be located along and away from the entire fenced plant boundary not just a portion of it. Please include additional receptors along the western and southwestern property boundaries.

Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. is responsible for the technical review of the application. He may be contacted at 850/921-9528. You may discuss the modeling requirements with Mr. Cleve Holladay at 850/921-8689.

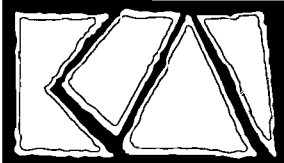
Sincerely,



For A.A. Linero, P.E. Administrator
New Source Review Section

AAL/sa

cc: G. Worley, EPA
J. Bunyak, NPS
B. Thomas, DEP-SWD
J. Koogler, Ph.D., P.E. Koogler & Associates



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

KA 173-01-01

May 2, 2001

RECEIVED

MAY 07 2001

BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: PSD Permit Application
Granular MAP/DAP Production Increase
US Agri-Chemicals, Ft. Meade Chemical Plant

Dear Mr. Linero:

Enclosed are eight (8) copies of a PSD permit application for an increase in the production rate of USAC's Granular MAP/DAP Plant located at Ft. Meade. Also enclosed is a disk containing the air dispersion modeling output.

A check in the amount of \$7500 (permit application fee) is enclosed.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par

Encl.

c: J. Girardin, USAC

J. Arif
C. Nalladay
B. Thomas, SW Dist.
D. Worley, EPA
G. Remyak, NPS



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

May 7, 2001

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

RE: Facility ID No. 1050051-015-AC, PSD-FL-321
U.S. Agri-Chemicals, Ft. Meade Chemical Plant
Granular MAP/DAP Production Increase

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for U.S. Agri-Chemicals to increase the production rate of their MAP/DAP Plant located in Fort Meade, Polk County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

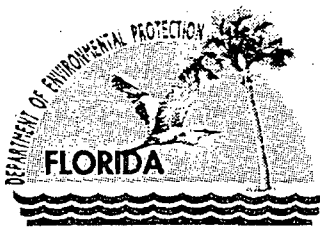
for

Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

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Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

May 7, 2001

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303


RE: Facility ID No. 1050051-015-AC, PSD-FL-321
U.S. Agri-Chemicals, Ft. Meade Chemical Plant
Granular MAP/DAP Production Increase

Dear Mr. Worley:

Enclosed for your review and comment is an application for U.S. Agri-Chemicals to increase the production rate of their MAP/DAP Plant located in Fort Meade, Polk County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

 Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

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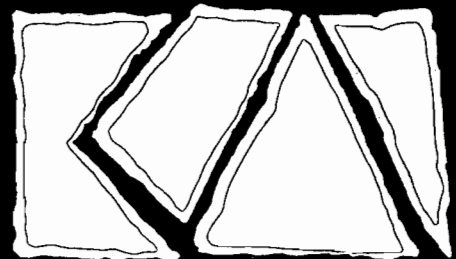
REPORT IN SUPPORT OF
PSD APPLICATION

FOR

INCREASE IN GRANULAR
MAP/DAP PRODUCTION

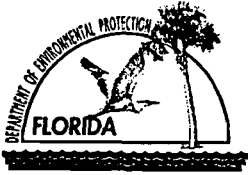
U.S. AGRICHEMICALS CORPORATION
FT. MEADE FACILITY

May, 2001



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX 377-7158



Department of Environmental Protection

Division of Air Resources Management

RECEIVED

MAY 07 2001

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: US Agri-Chemicals Corporation	
2. Site Name: Ft. Meade Chemical Plant	
3. Facility Identification Number: 1050051 [] Unknown	
4. Facility Location: Street Address or Other Locator: 3225 State Road 630 West City: Ft. Meade County: Polk Zip Code: 33841-9799	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Ronald L. Brunk, Manager, Env. Eng.		
2. Application Contact Mailing Address: Organization/Firm: Same as Above. Street Address: City: State: Zip Code:		
3. Application Contact Telephone Numbers: Telephone: (863)285-8121 Fax: (863)285-7088		

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	5-7-01
2. Permit Number:	1050051-015-AC
3. PSD Number (if applicable):	PSD-FL-321
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

Initial Title V air operation permit for an existing facility which is classified as a Title V source.

Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: _____

Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

Air construction permit to construct or modify one or more emissions units.

Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Phong T. Vo, General Manager of Engineering and Technical Services
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: US Agri-Chemicals Street Address: 3225 State Road 630 West City: Ft. Meade State: FL Zip Code: 33841-9799
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (863) 285-8121 Fax: (863) 285-7088
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i> Signature <u>Phong T. Vo</u> Date <u>5/4/01</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler and Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [] , if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [] , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

(seal)

Date

5/2/01

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
032/038	MAP/DAP Plant	ACIA	\$7500 -PSD
037	MAP/DAP Storage and Loadout	ACIA	PSD

Application Processing Fee

Check one: [] Attached - Amount: \$ 7500 [] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

The proposed project includes an increase in the production rate of Granular MAP/DAP from 50 to 60 tph. The existing Prill/Granular MAP/DAP storage and loadout system will continue to be used without requiring any physical modifications. The proposed project is subject to a PSD review as the expected increases, in the air emissions of particulate matter and fluorides will be greater than the significant pursuant to Rule 62-212 of the Florida Administrative Code.

2. Projected or Actual Date of Commencement of Construction: **12/01/01**

3. Projected Date of Completion of Construction: **12/31/03**

Application Comment

The application includes only information related to the proposed modification, as suggested by FDEP.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 416.2 North (km): 3068.7			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 27/44/40 Longitude (DD/MM/SS): 81/51/08			
3. Governmental Facility Code: O	4. Facility Status Code: A	5. Facility Major Group SIC Code: 28	6. Facility SIC(s): 2874
7. Facility Comment (limit to 500 characters): 			

Facility Contact

1. Name and Title of Facility Contact: Ronald L. Brunk, Manager, Env. Eng.			
2. Facility Contact Mailing Address: Organization/Firm: U.S. Agri-Chemicals Corporation Street Address: 3225 State Road 630 West City: Ft. Meade State: FL Zip Code: 33841-9799			
3. Facility Contact Telephone Numbers: Telephone: (863) 285-8121 Fax: (863) 285-7088			

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input checked="" type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

DEP TITLE V CORE LIST	
40 CFR 52, 55, 60, 61, 63, 68, 82	
FAC RULES 62-4, 204, 210, 212, 213, 214, 252, 256, 257, 281, 296, 297	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
SO2	A				
FL	B				
PM/PM10	B				
NO _x	A				
SAM	A				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input checked="" type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: <u>100000145871</u>) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Plant</p>			
<p>4. Emissions Unit Identification Number:</p> <p>ID: 032/038 [] No ID</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p>[]</p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) This plant is permitted to produce prilled or granular MAP and DAP.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

VENTURI SCRUBBER

2. Control Device or Method Code(s): **053**

Emissions Unit Details

1. Package Unit: **N/A**

Manufacturer:

Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:

Dwell Temperature: °F

Dwell Time: seconds

Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	30	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	31.8 tph P2O5 input	
4. Maximum Production Rate:	60 tph granular product	
5. Requested Maximum Operating Schedule:		
	24	hours/day
	7	days/week
	52	weeks/year
	8760	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):	Process rate is based on a conversion factor of 0.53	

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? MAP/DAP Plant		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 135.5 feet	7. Exit Diameter: 6.71 feet	
8. Exit Temperature: 149 F	9. Actual Volumetric Flow Rate: 110000 acfm	10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):			

**E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)**

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): MAP/DAP granular production		
2. Source Classification Code (SCC): 3-01-030-02		3. SCC Units: TONS
4. Maximum Hourly Rate: 60	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Natural gas firing		
2. Source Classification Code (SCC): 3-90-006-89		3. SCC Units: MMCF
4. Maximum Hourly Rate: 0.03	5. Maximum Annual Rate: 263	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: FL		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.18 lb/hour		4. Synthetically Limited? []	
		5.2 tons/year	
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.037 lb/ton P2O5 input Reference: Proposed BACT		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): FL = 0.037 lbs/ton P2O5 input x 31.8 tph P2O5 = 1.18 lb/hr X 8760 hours x ton/2000 lbs = 5.2 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 0.037 lb/ton P2O5 input		4. Equivalent Allowable Emissions: 1.18 lb/hour 5.2 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 13A/13B			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT			

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
 (Regulated Emissions Units -
 Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 10.2 lb/hour		4. Synthetically Limited? [] 44.7 tons/year	
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.17 lb/ton product Reference: Proposed BACT		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): PM = 0.17 lbs/ton product x 60 tph = 10.2 lb/hr X 8760 hours x ton/2000 lbs = 44.7 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 0.17 lb/ton product		4. Equivalent Allowable Emissions: 10.2 lb/hour 44.7 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 4.2 lb/hour		4. Synthetically Limited? [] 18.4 tons/year	
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 140 lb/MMCF Reference: AP-42		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): $\text{NOX} = 140 \text{ lbs/MMCF} \times 0.03 \text{ MMCF/hr} = 4.2 \text{ lb/hr}$ $\times 8760 \text{ hours} \times \text{ton}/2000 \text{ lbs} = 18.4 \text{ tpy}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code: NA		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: NA		4. Equivalent Allowable Emissions: lb/hour tons/year	
5. Method of Compliance (limit to 60 characters): NA			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): No applicable standard.			

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE15	2. Basis for Allowable Opacity: [X] Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 15 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): BACT	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: FLOW	2. Pollutant(s): N/A
3. CMS Requirement:	[X] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: PRS	2. Pollutant(s): N/A
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
5. Compliance Test Report <input checked="" type="checkbox"/> Attached, Document ID: Report (summary) <input type="checkbox"/> Previously submitted, Date: _____ <input type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation [] Attached, Document ID: _____ [X] Not Applicable
12. Alternative Modes of Operation (Emissions Trading) [] Attached, Document ID: _____ [X] Not Applicable
13. Identification of Additional Applicable Requirements [] Attached, Document ID: _____ [X] Not Applicable
14. Compliance Assurance Monitoring Plan [] Attached, Document ID: _____ [X] Not Applicable
15. Acid Rain Part Application (Hard-copy Required) [] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ [] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Storage and Loadout</p>			
<p>4. Emissions Unit Identification Number:</p> <p><input type="checkbox"/> No ID ID: 037 <input type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) No changes are proposed to the storage and loadout system.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Baghouse; alternatively, a dust suppressant oil may be used.

2. Control Device or Method Code(s): **018/106**

Emissions Unit Details

1. Package Unit: **N/A**

Manufacturer:

Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:

Dwell Temperature: °F

Dwell Time: seconds

Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	N/A	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	150 TPH	
4. Maximum Production Rate:	N/A	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Page 8	

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Loadout		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 50 feet	7. Exit Diameter: 1.2 feet	
8. Exit Temperature: 80 F	9. Actual Volumetric Flow Rate: 6000 acfm	10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):			

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Material Loadout		
2. Source Classification Code (SCC): 3-01-030-03		3. SCC Units: TONS
4. Maximum Hourly Rate: 150	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 150 tons Maximum Annual Rate = 525,600 tons (maximum plant rate)		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

**F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018/106		EL

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.03 lb/hour		4. Synthetically Limited? [] 4.5 tons/year	
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.02 gr/cf Reference: BACT		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): PM = 0.02 gr/cf x 6000 cfm x 60 min/hr x lb/7000 gr = 1.03 lb/hr X 8760 hours x ton/2000 lbs = 4.5 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from this plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 1.03 lb/hr		4. Equivalent Allowable Emissions: 1.03 lb/hour 4.5 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 9			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT - VE			

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE5	2. Basis for Allowable Opacity: [X] Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 5% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): 	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: N/A	2. Pollutant(s): N/A
3. CMS Requirement:	[] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): 	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation [] Attached, Document ID: _____ [X] Not Applicable
12. Alternative Modes of Operation (Emissions Trading) [] Attached, Document ID: _____ [X] Not Applicable
13. Identification of Additional Applicable Requirements [] Attached, Document ID: _____ [X] Not Applicable
14. Compliance Assurance Monitoring Plan [] Attached, Document ID: _____ [X] Not Applicable
15. Acid Rain Part Application (Hard-copy Required) [] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ [] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ [X] Not Applicable

REPORT IN SUPPORT OF PSD APPLICATION
FOR
INCREASE IN GRANULAR MAP/DAP PRODUCTION

U.S. AGRI-CHEMICALS CORPORATION
FT. MEADE FACILITY

REPORT PREPARED BY
KOOGLER & ASSOCIATES
4014 NW 13TH STREET
GAINESVILLE, FLORIDA
(352) 377-5822

MAY, 2001

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1.0 INTRODUCTION

US Agri-Chemicals (USAC) proposes to increase the production rate of the granular MAP/DAP Plant from 50 tons per hour (tph) to 60 tph at its existing chemical complex at Ft. Meade.

The facility manufactures sulfuric acid, phosphoric acid and ammoniated fertilizers. The existing MAP/DAP Plant can make prilled or granular product, depending on market demand. It is expected that only some pumps and piping may be changed, as necessary, to accomplish the production increase. No major equipment changes are proposed. The increase in granular MAP/DAP production rate will result in an increase in the annual throughput rate of the MAP/DAP storage and loadout system, currently permitted to handle 150 tph of product. Some phosphoric acid normally routed to the USAC Bartow facility will be supplied to the MAP/DAP plant, to accommodate market demand and operation conditions of the Bartow and Ft. Meade facilities. No other emission units will be affected by the proposed project. Plant maps and process flow diagrams are presented in Figures 1-1 to 1-5.

The proposed granular MAP/DAP Plant production increase is expected to result in a significant increase, as defined in Rule 62-212, Florida Administrative Code (FAC), in the emissions of fluorides and particulate matter (see Tables 1-1 and 1-2). This technical evaluation addresses rule applicability, Best Available Control Technology (BACT) and air impact analyses pursuant to Rule 62-212, FAC.

USAC proposes the continued use of the existing venturi scrubbers as BACT for the MAP/DAP Plant with a fluoride emissions limit of 0.037 lb/ton P₂O₅ input; and, a particulate matter emissions limit of 0.17 lb/ton product. These emission limits represent some of the most stringent limitations imposed on MAP/DAP Plants in the US.

FIGURE I-1
SITE LOCATION MAP

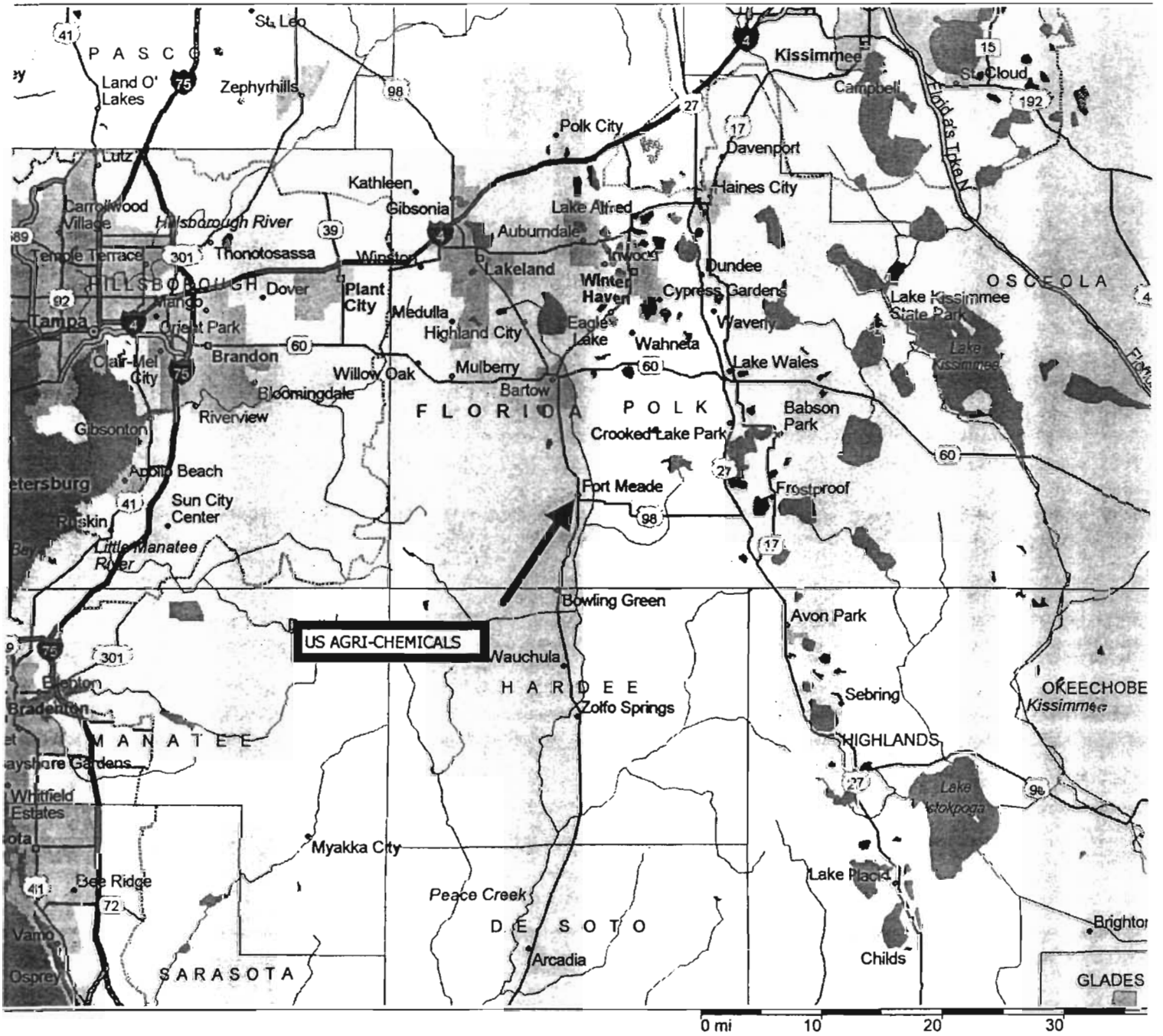


FIGURE 1-2
AREA LOCATION MAP

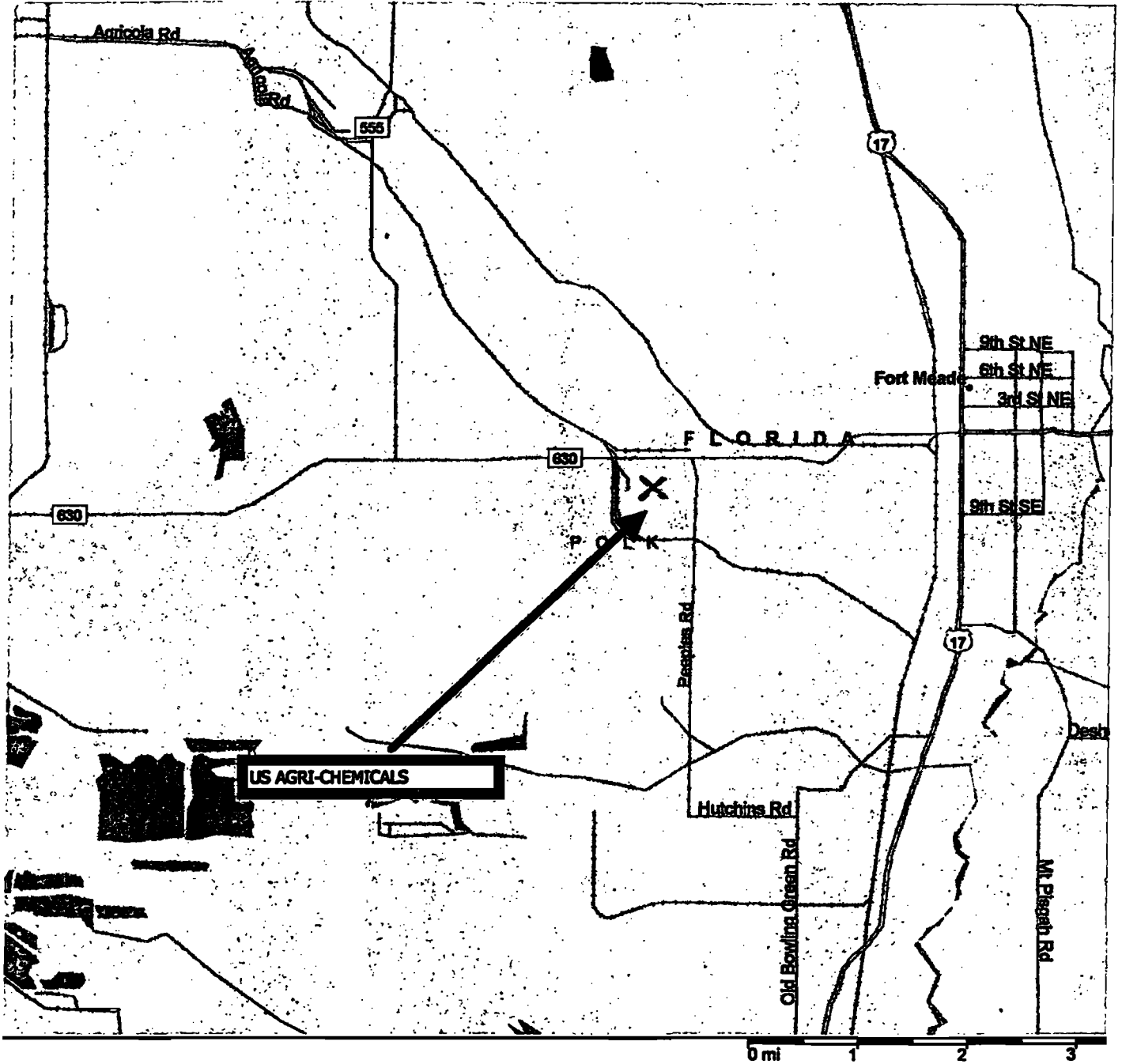
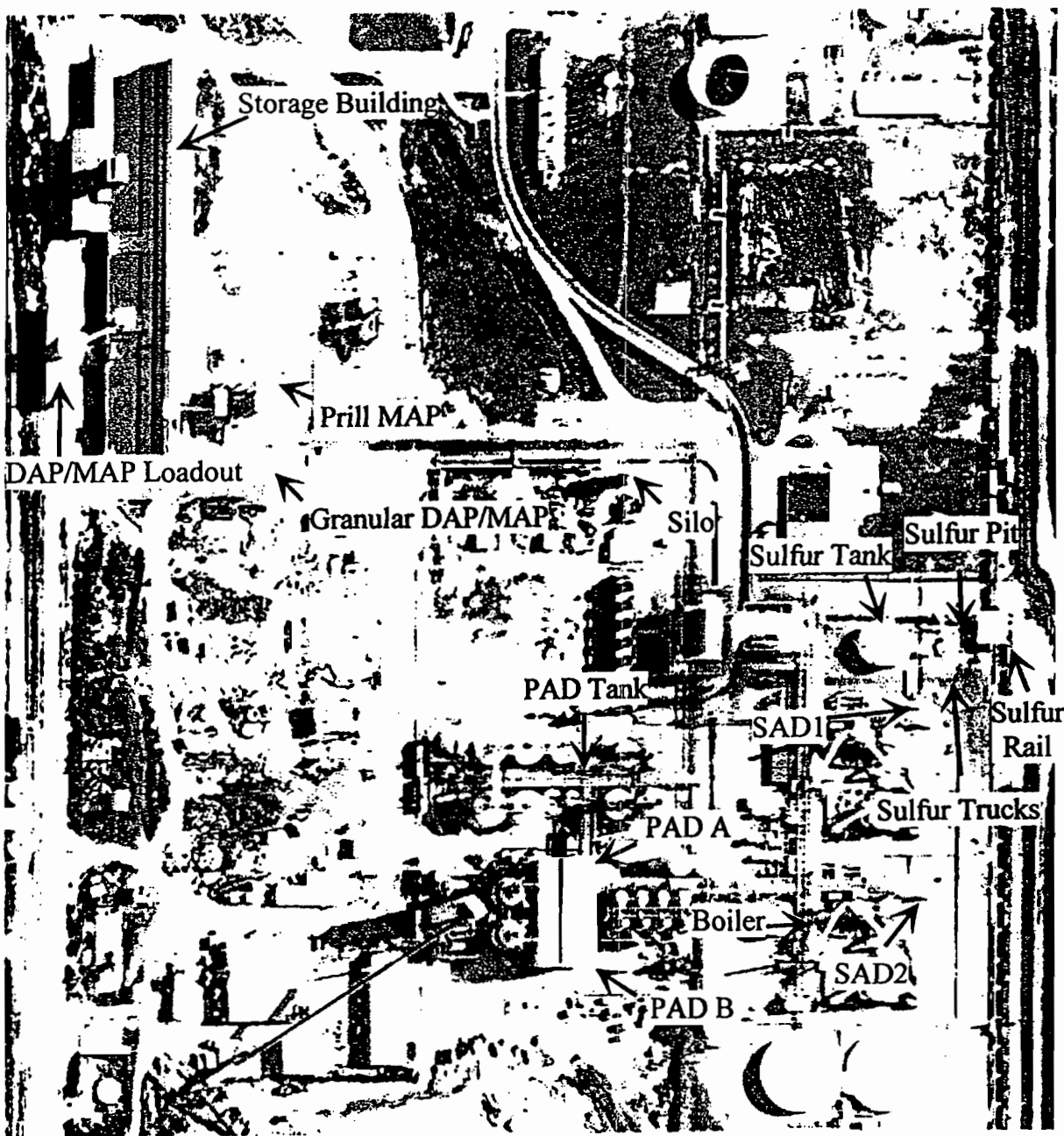


FIGURE 1-3

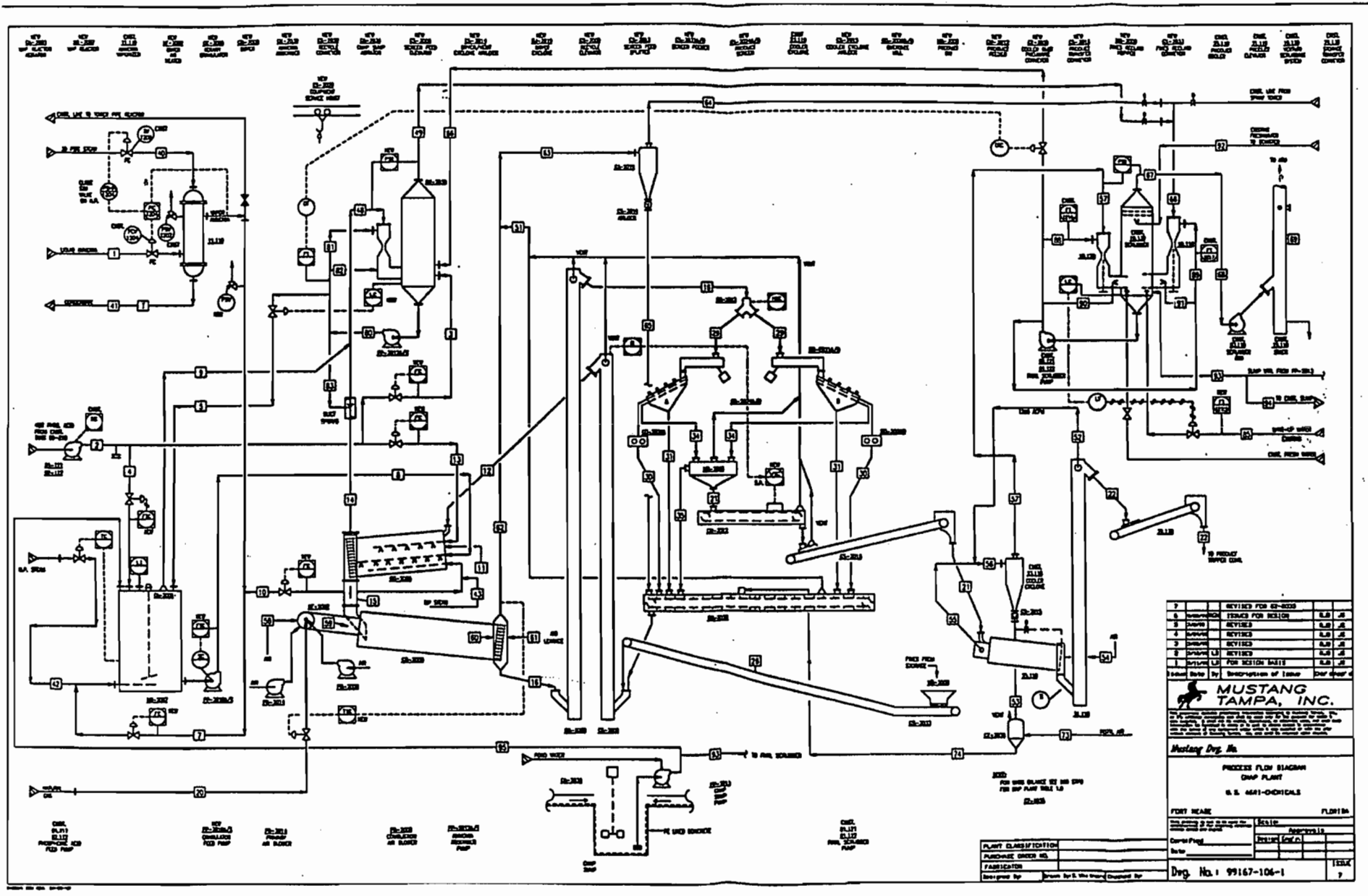
PLOT PLAN



Best Available Copy

FIGURE 1-4

PROCESS FLOW DIAGRAM - GRANULAR MAP/DAP PLANT




7	REVISED FOR 62-8008		
6	REVISED FOR SECTION	6.6	JL
5	REVISED FOR SECTION	6.6	JL
4	REVISED FOR SECTION	6.6	JL
3	REVISED FOR SECTION	6.6	JL
2	REVISED FOR SECTION	6.6	JL
1	REVISED FOR SECTION	6.6	JL
Prepared by: <i>[Signature]</i> Checked by: <i>[Signature]</i>			
 MUSTANG TAMP, INC.			
<i>Mustang Div. of</i> PROCESS FLOW DIAGRAM MAP PLANT S. S. 4641-040416			
PORT NAME	FLOW IN	FLOW OUT	
Control Panel	APPROVALS		
Date	DESIGNED		
Drawn by	Checked by		
Designated by	Drawn for S. S. 4641-040416		
Drawn No. 1	99167-106-1		
			7

FIGURE 1-5

MAP/DAP LOADOUT PROCESS FLOW DIAGRAM

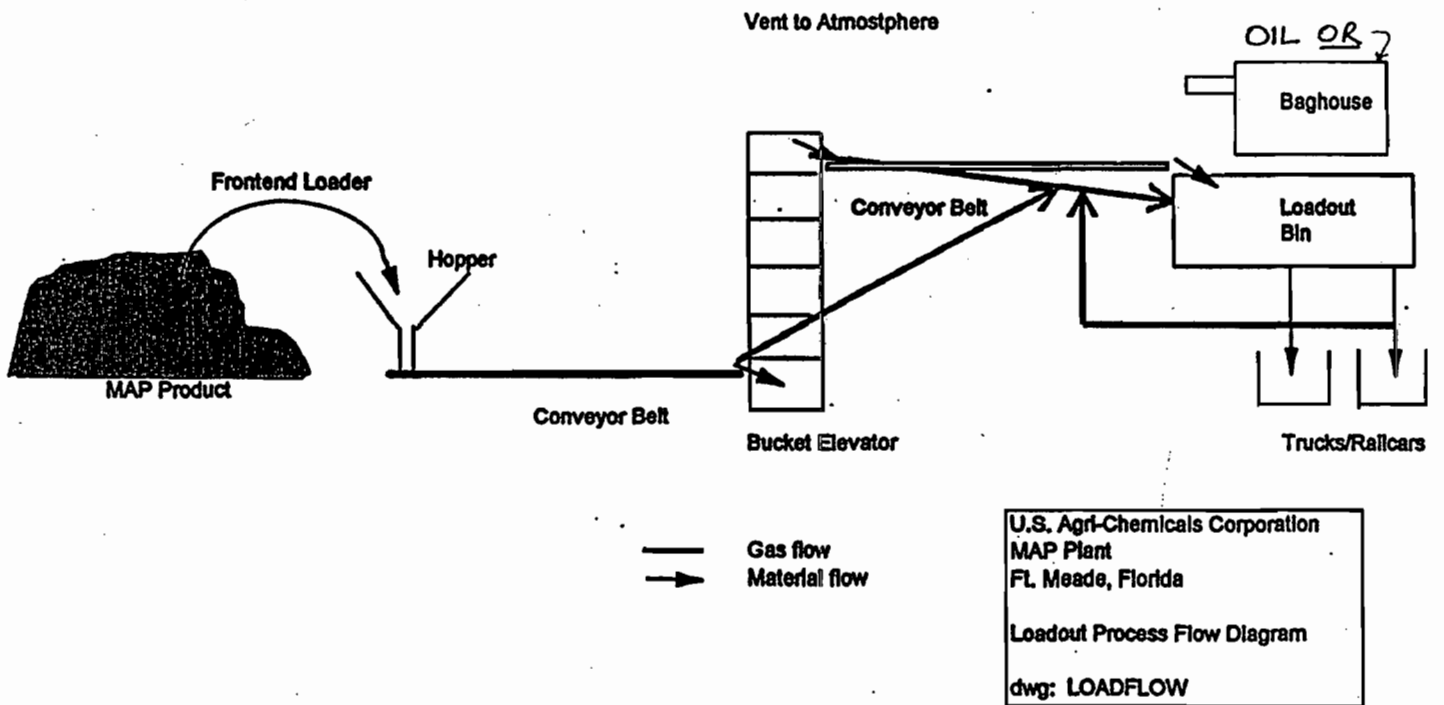


TABLE 1-1
SUMMARY OF EMISSION CHANGES

Emission Unit	Estimated Emissions (1)					
	Fluorides		Particulate Matter		Nitrogen Oxides	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Actual Emissions:						
MAP/DAP Plant	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	NA	NA	1.03	3.7	NA	NA
Proposed Emissions:						
MAP/DAP Plant	1.18	5.2	10.2	44.7	4.2	18.4
Loadout	NA	NA	1.03	4.5	NA	NA
Net Emissions		3.3		20.5		11.2
PSD Significant Level		3		15		40
PSD Review Required?		YES		YES		NO

NOTES:

(1) See emission calculations presented in Appendix A.

2.0 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a PSD review.

In accordance with EPA and state of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations that are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC). All new major sources and major modifications to existing sources are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 2-1) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 2-2).

2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 2-3). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas is usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements that ensure continued attainment status.

2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO₂) and particulate matter (PM/TSP) which would constitute significant deterioration. The size of

the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NO_x) and PSD increments for nitrogen dioxide (NO₂) concentrations. FDEP adopted the NO₂ increments in July 1990 (see Table 2-4 for PSD increments).

In the PSD regulations, as amended August 7, 1980, baseline concentration is defined as the ambient concentration level for a given pollutant which exists in the baseline area at the time of the applicable baseline date and includes the actual emissions representative of facilities in existence on the applicable baseline date, and the allowable emissions of major stationary facilities which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO₂ and PM (TSP) and February 8, 1988, for NO₂, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 62-212, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant.

If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include

applicable test methods or shall provide for determining compliance with the standard(s) by means that achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires an applicant to start with the most stringent control alternative, often Lowest Achievable Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimus levels (see Table 2-2).

2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation resulting from a project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed. The National Park Service also requires an Air Quality Related Values (AQRV) Analysis for a Class I area.

2.7 Good Engineering Practice Stack Height

In accordance with Chapter 62, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the greater of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H_g - GEP stack height,

H - Height of the structure or nearby structure, and

L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

2.8 Rule Applicability

The proposed project at USAC, as previously described herein, is classified as a major modification to a major source subject to both state and federal regulations as set forth in Rule 62-212, FAC.

The facility is located in an area classified as attainment for each of the regulated air pollutants in accordance with Rule 62-275, FAC.

The proposed project will result in significant increases in the emissions of fluorides and particulate matter, as defined in Rule 62-212, FAC; and, will therefore be subject to PSD preconstruction review requirements.

The PSD review will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

TABLE 2-1

MAJOR FACILITY CATEGORIES

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr 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 acid plants
Sulfuric acid plants
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
BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 2-2

REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

Pollutant	Significant Emission Rate tons/yr	De-Minimus Ambient Impacts ug/m ³
CO	100	575 (8-hour)
NOx	40	14 (NO ₂ , Annual)
SO ₂	40	13 (24-hour)
Ozone	40 (VOC)	-
PM	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H ₂ S)	10	0.2 (1-hour)
H ₂ SO ₄ mist	7	-
Fluorides	3	0.25 (24-hour)
MSW Combustor:		
Organics (Dioxins/Furans)	3.5E-6	
Metals (PM)	15	
Acid Gases (SO ₂ /HCl)	40	
MSW Landfill Gases (NMOC)	50	
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)

TABLE 2-3
 AMBIENT AIR QUALITY STANDARDS

<u>Pollutant</u>	<u>FDEP (State)</u>		<u>USEPA (National)</u>			
	<u>ug/m³</u>	<u>PPM</u>	<u>Primary</u>		<u>Secondary</u>	
	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>
SO ₂ , 3-hour	1,300	0.5	-	-	1300	0.5
24-hour	260	0.1	365	0.14	-	-
Annual	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
Annual	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
8-hour	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO ₂ , Annual	100	0.053	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 2-4
PSD INCREMENTS

Pollutant	<u>Allowable PSD Increments (State/National)</u>		
	Class I ug/m ³	Class II ug/m ³	Class III ug/m ³
PM10, Annual	4	17	34
24-hour	8	30	60
SO ₂ , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO ₂ , Annual	2.5	25	50

3.0 BEST AVAILABLE CONTROL TECHNOLOGY

As indicated in the rule applicability in the permit application, the proposed project is subject to PSD review requirements pursuant to Rule 62-212, FAC. A Best Available Control Technology (BACT) evaluation is presented below for fluoride emissions from the proposed project.

USAC proposes about a 20 percent increase in the production rate of the existing granular MAP/DAP Plant from 50 tph to 60 tph. The proposed maximum production rate of 60 tph MAP corresponds to 31.8 tph P₂O₅ input. No changes are proposed to the existing air pollution control equipment consisting of venturi scrubbers, as shown on the process flow diagrams. The available compliance test information indicates that the plant is in compliance with some of the most stringent emission limits imposed on granular MAP/DAP Plants.

3.1 Emission Standards for MAP/DAP Plants

Federal New Source Performance Standards (NSPS) for DAP plants, codified in 40 CFR 60, Subpart V, limit fluoride emissions to no more than 0.06 pounds per ton P₂O₅ input. For the purposes of the standard, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills.

More recently, additional federal standards were promulgated under 40 CFR 63 Subpart BB, National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizer Production Plants. The fluoride emission standard under these NESHAPs for existing MAP/DAP plants is identical to that under NSPS, at 0.06 lb/ton P₂O₅ feed. The fluoride emission standard for new plants is limited to 0.058 lb/ton P₂O₅ feed. However, these standards apply only to major sources of HAPs. As USAC is not a major source of HAPs, these standards do not apply to the proposed project.

3.2 Control Technologies

The most common pollution control equipment used to control fluorides from a MAP/DAP plant is a wet scrubber. There is some variation in the wet scrubbing system configurations from plant to plant, often depending on the preference of the plant designers and suppliers. Particulate matter emissions are most often controlled using venturi scrubbers.

The use of fresh water as scrubbing medium, in place of pond water, would result in increased capture of gaseous fluorides. However, this option is not possible given the current severe water restrictions implemented in the area by the Water Management District.

The existing USAC scrubbing system consists of venturi scrubbers. They are proven with the industry as they operate with low maintenance/repair costs, and increased on-line operation.

Packed scrubbers offer superior gaseous fluoride removal, however the industry experience indicates that the packing tends to plug frequently causing maintenance problems. The resulting plant down time cuts into the overall plant efficiency and productivity. Consequently, the use of packed scrubbers, in place of the existing venturi scrubbers, is not considered for this application. However, the use of packed scrubbers, in series with the existing venturi scrubbers can be evaluated.

The cost associated with the use of a cross-flow packed scrubber, based on a recent cost proposal for a similar application, is estimated below.

Total Capital Cost:	With Equipment Cost of \$190,000		
	Purchased Equip. Cost (1.18, EPA factor)	= \$	224,200
	Installation Cost (0.85 PEC, EPA factor)	= \$	190,570
	Indirect Cost (0.35 PEC, EPA factor)	= \$	78,470
	Total Capital Cost	= \$	493,240
Direct Annual Cost	Labor (0.5 hr/shift, EPA factor)	= \$	10,000
	Maintenance (1.0 hr/shift, EPA factor)	= \$	20,000
	Electricity (pump)	= \$	30,000
	Total DC	= \$	60,000
Indirect Annual Cost	(0.1715 TCI, EPA combined factor)	= \$	84,600
	(includes capital recovery at 15 year life, 10% int.)		
Total Annual Cost	(DC + IC)	= \$	144,600

Based on the above annual cost, the cost of fluoride control can be estimated with a conservative assumption that all fluorides from the venturi scrubber, of 5.2 tpy, are captured.

Annual Cost of fluoride control (\$144,600 / 5.2 tpy) = \$ 27,800/ton

This alternative is rejected as BACT based on the above control cost which far exceeds \$10,000 per ton fluoride controlled.

Another alternative would be the replacement of the existing tail-gas venturi scrubber with a packed scrubber. The corresponding annual costs are presented below.

Previous Total Capital Cost (without extra ducting)	= \$	493,240
Added Ducting and Production Loss Cost	= \$	500,000
Revised Total Capital Cost	= \$	993,240

Revised Indirect Cost (use EPA factor of 0.1715 x TCC)	= \$ 170,340
Direct costs (assumed to be the same as above)	= \$ 60,000
Annual Cost (DC+IC)	= \$ 230,000

To determine the cost of fluoride control, the total annual quantity of fluorides removed by the new scrubber needs to be calculated. As the fluoride loading to the scrubber has not been measured, it has to be estimated. In reality, it is expected that the first venturi controls most of the fluorides with the second venturi adding a polishing step with minimal fluorides removal. However, for the sake of this analysis it is assumed that that the R/G venturi scrubber controls 60 percent of the fluorides and that the tail gas venturi scrubber removes an additional 20 percent of the fluorides (based on an expectation of an 80 percent overall control efficiency). This arrangement is practical as the R/G venturi would reduce the particulate matter going to a packed scrubber and avoid frequent plugging of the packed section. The tail-gas scrubber inlet loading can be back calculated as follows:

Projected annual fluoride emissions	= 5.2 tpy
Potential additional F control by tail-gas (TG) scrubber being replaced (conservative assumption of 60% by R/G and 20% by TG)	= 20 %

Estimated fluorides to tail-gas scrubber can be estimated as follows:

$$F = 5.2 \text{ tpy} + (5.2 / (1 - 0.8)) \times (0.8 \times 0.2 / (0.6 + 0.2)) = 10.4 \text{ tpy}$$

The total amount of fluorides that would be expected to be controlled by a new packed cross-flow scrubber can be estimated based on a projected control efficiency of 99%.

$$\text{Fluorides controlled} = 10.4 \text{ tpy} \times 0.99 = 10.3 \text{ tpy}$$

The resulting cost of control can be estimated as follows:

$$\text{Control Cost} = \$230,000 / 10.3 \text{ tpy} = \$ 22,300$$

(\$/ton fluorides removed)

The above cost also exceed the presumed BACT guideline cost of around \$10,000 per ton of fluorides removed and, therefore, this alternative is also rejected as BACT.

This BACT analysis also notes that the subject plant has a more restrictive fluorides emission limit than other recently permitted facilities that use packed scrubbers for fluorides control (refer to PSD-FL-246: Farmland; and PSD-FL-255: Cargill).

Treated water recirculation is rejected as BACT based on costs evaluated for a similar project for a lined pond and lime treatment that exceed even the costs associated with a packed scrubber. Further, the treated water containment integrity and storm contingencies can add considerable unnecessary environmental liability.

It should be noted that the historical fluoride emissions measurements indicate that the current scrubber configuration results in emissions of fluorides well below the NSPS. A summary of recent emissions measurements at USAC is included along with the emissions calculations in Appendix A. Furthermore, it is our understanding that the current fluoride emission rate, of 0.037 lb/ton P₂O₅ input, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

For particulate matter, the use of venturi scrubbers has consistently been considered BACT by FDEP for fertilizer plants. As USAC proposes to continue the use of the existing venturi scrubbers, no further discussion is presented herein. Furthermore, it is our understanding that the current particulate matter emission rate, of 0.17 lb/ton product, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

Particulate matter emissions from the storage and loadout system are controlled by a baghouse or by oil (dust suppressant). As the use of a baghouse or dust suppressant has consistently been considered BACT by FDEP for material handling operations, no further discussion is presented herein.

3.3 BACT Conclusion

Based on the above discussion, USAC proposes the continued use of the existing venturi scrubbers as BACT and will limit fluoride emissions from the MAP/DAP Plant to 0.037 lb/ton P₂O₅ input; limit particulate matter emissions to 0.17 lb/ton product and, limit visible emissions to 15 percent opacity. BACT for the particulate matter emissions from the storage and loadout system is reflected by an opacity limit of 5 percent.

4.0 AIR IMPACTS ANALYSIS

An ambient air standards analysis is required for fluorides and particulate matter as there are applicable particulate matter ambient air standards and applicable monitoring thresholds for fluorides.

4.1 Significant Impact Analysis

The fluoride and particulate matter emission rates used for air quality modeling purposes for Significant Impact Analysis (SIA) represent the proposed net increase in the emission rate associated with the proposed project. Table 4-1 contains modeling input parameters used in the ambient air quality impacts analysis.

The SIA was conducted using the Industrial Source Complex-Short Term air quality model, Version 00101 (ISC-ST3), in accordance with guidelines established by EPA and published in the document, Guideline for Air Quality Modeling. The meteorological data used with the model were for Tampa, Florida and represented the period 1987-1991.

The maximum allowable federally enforceable emissions from the MAP/DAP Plant and the product storage and loadout system were modeled in the SIA. The maximum allowable current emission rates were represented as a negative input while the proposed emission rates were represented as positive inputs to the model. Changes and updates to the stack characteristics were also included.

The SIA modeling included discrete receptors at the facility property boundary and additional receptors established by the polar grid system extending to 10 kilometers from the plant. The discrete receptors were placed along the property boundary at 100 meter intervals. Fourteen sets of receptor rings were placed at distances ranging from about 500 to 10,000 meters from the plant with receptors placed at 10 degree intervals from 10° to 360° on each receptor ring, with the exclusion of receptors within property boundary. The downwind receptor distances were selected in order to provide a higher concentration of receptors closer to the source where the maximum impacts were expected. Receptor locations are shown in Figure 4-1.

The results of the SIA modeling, summarized in Table 4-2, demonstrate that the maximum predicted air impact of the fluorides and particulate matter emissions from the proposed project are below the 24-hour de-minimus levels; below the significant levels for the 24-hour and annual periods for the Class II area; and, below the significant level for the Class I area. Based on the results of the SIA, additional modeling was not required for the proposed project.

FIGURE 4-1

MODELING RECEPTOR LOCATIONS

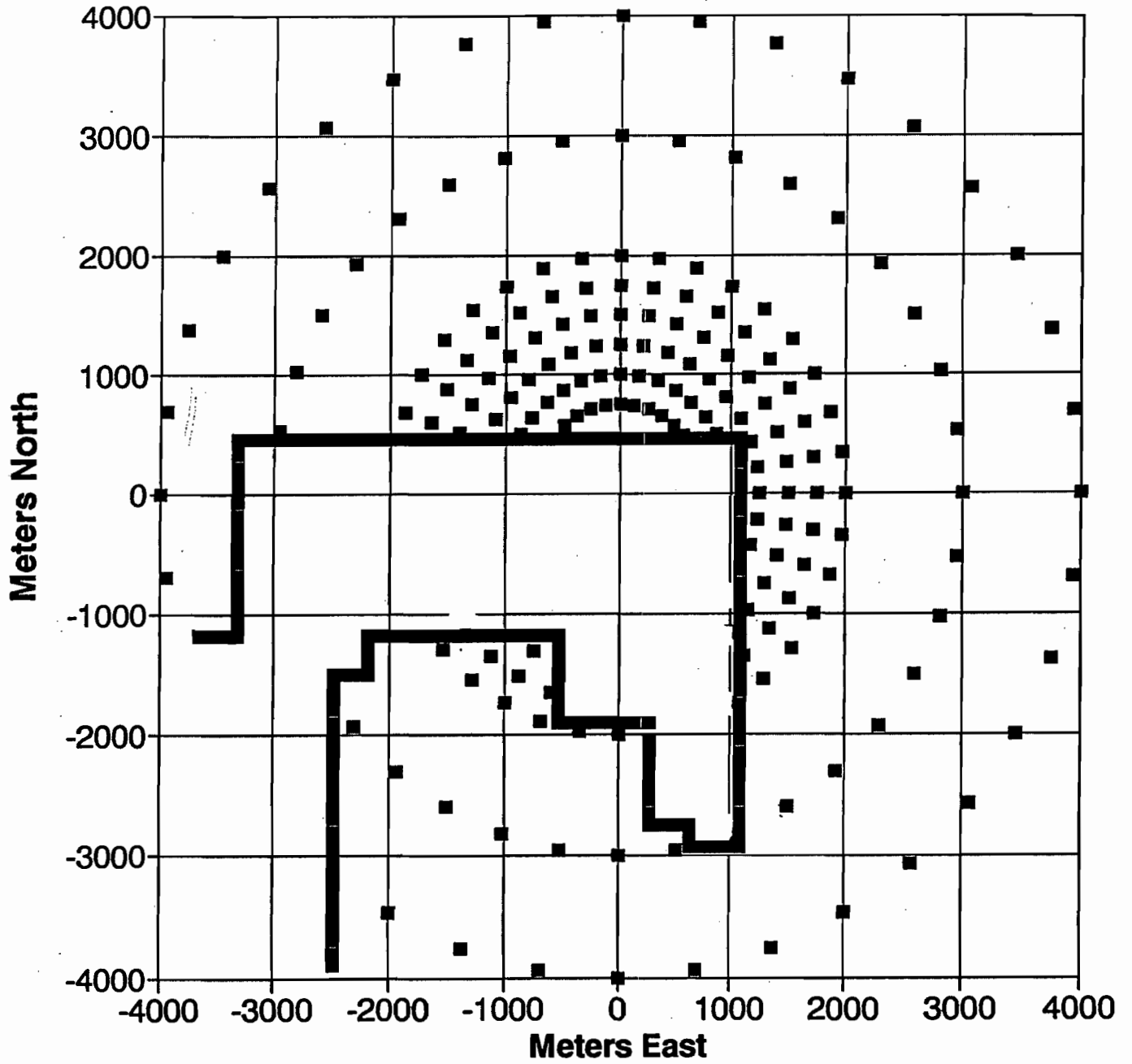


TABLE 4-1
 AIR QUALITY MODELING PARAMETERS
 MAP/DAP PLANT

<u>Emission Unit</u>	<u>Stack</u>		<u>Stack Gas</u>		<u>Emissions</u> (g/s)
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	
<u>Particulate Matter</u>					
Tower (1)	21.95	2.74	14.37	332	3.02
Tower (2)	41.30	2.05	15.81	338	3.02
Loadout (3)	15.24	0.43	14.40	300	0.54
Loadout (4)	15.24	0.37	26.90	300	0.54
<u>Fluorides</u>					
Tower (5)	41.30	2.05	15.81	338	0.123
Tower (6)	41.30	2.05	15.81	338	0.148

NOTES:

- (1) This worst-case conditions reflect plant in prilled product operation as modeled before.
- (2) The worst-case conditions reflect plant in prilled product operation based on stack parameters as proposed.
- (3) The worst-case conditions modeled reflect loadout operation as modeled before.
- (4) The worst-case conditions modeled reflect loadout operation based on stack parameters as proposed.
- (5) The worst-case conditions modeled reflect granular product operation as before.
- (6) The worst-case conditions modeled reflect granular product operation as proposed.
- (7) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2
SUMMARY OF SIGNIFICANT IMPACT ANALYSIS
MAP/DAP PLANT

MET. DATA	<u>CLASS I AREA IMPACTS (1)</u>		<u>CLASS II AREA IMPACTS (1)</u>		
	<u>PM</u>		<u>F</u>	<u>PM</u>	
	<u>24-HR</u>	<u>ANNUAL</u>	<u>24-HR</u>	<u>24-HR</u>	<u>ANNUAL</u>
1987	0	0	0.03	4.08	0
1988	0	0	0.03	3.39	0
1989	0	0	0.03	3.11	0
1990	0	0	0.03	3.50	0
1991	0	0	0.03	4.45	0
MAXIMUM	0	0	0.03	4.45	0
DI-MINIMUS (2)	NA	NA	0.25	10	NA
SIG. IMPACT (2)	0.3	0.2	NA	5	1

NOTE:

- (1) The impacts represent the highest-high impact.
- (2) As defined in Rule 62-212, FAC.
- (3) The impacts are based on the difference between the plant as modeled before and as proposed (see Table 4-1).

5.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

5.1 Impacts on Soils and Vegetation

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to "... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of fluorides and particulate matter expected in the vicinity of the proposed project are below the ambient air quality standards. In fact, the maximum predicted long term impacts based on the project as modeled are zero. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area.

USAC's Ft. Meade plant property and the surrounding areas are comprised of mining lands (phosphate), flatwoods, marshes, and sloughs. The soils of the area are primarily sandy and are typically low in both clay and silt content. These characteristics and the semi-tropic climatic factors of high temperature and rainfall are the natural factors that determine the terrestrial communities of the region.

The land in the vicinity of the plant supports various plant communities. Much of the natural vegetation on the site and the surrounding areas has been altered due to mining and industrial use; primarily the phosphate fertilizer industry. As a result of mining and industrial activity, there is very little undisturbed land in existence in the vicinity of the plant. As a result, no adverse impacts from the proposed project are expected on the soils and vegetation in the vicinity of the facility.

5.2 Growth Relate Impacts

The proposed project will require no increase in personnel to operate the facility. Also, an increase in traffic due is not expected, and any changes will likely have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project.

5.3 Visibility Impacts

The proposed project will result in an increase in air emissions and therefore has the potential for adverse impacts on visibility.

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. The emissions of particulate matter were input to the model. The VISCREEN - Level 1 modeling results, presented in Table 5-1, indicate that there will be no adverse visibility impacts from the proposed project.

5.4 Impacts on Air Quality Related Values for the Class I Area

The analysis addressed in this section addresses the review of the impact of increased emissions on air quality related values associated with the Chassahowitzka Wildlife Refuge, a Class I area located in excess of 100 kilometers northwest of the USAC Ft. Meade facility.

Given that the maximum predicted Class I area impacts based on the ISC3 modeling are zero, no adverse impact to the Class I area vegetation, soils, wildlife or visibility are expected.

A regional haze analysis was performed using the maximum predicted particulate matter impacts based on the NPS protocol, except using ISC3 results. The results of the regional haze analysis, presented in Table 5-2, indicate that no adverse visibility impacts are expected as a result of the proposed project.

TABLE 5-1

VISIBILITY SCREENING RESULTS

Source: Granular MAP/DAP Plant
 Class I Area: Chass.

Level-1 Screening Input Emissions for:

Particulates	3.56	G	/S
NOx (as NO2)	0.53	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

Default Particle Characteristics Assumed.

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	65.00	km
Source-Observer Distance:	110.00	km
Min. Source-Class I Distance:	110.00	km
Max. Source-Class I Distance:	130.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	110.0	84.	2.00	.123	.05	.002
SKY	140.	84.	110.0	84.	2.00	.022	.05	-.001
TERRAIN	10.	84.	110.0	84.	2.00	.058	.05	.001
TERRAIN	140.	84.	110.0	84.	2.00	.012	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	30.	83.4	139.	2.00	.151	.05	.002
SKY	140.	30.	83.4	139.	2.00	.026	.05	-.001
TERRAIN	10.	50.	96.1	119.	2.00	.074	.05	.001
TERRAIN	140.	50.	96.1	119.	2.00	.017	.05	.001

TABLE 5-2
REGIONAL HAZE ANALYSIS

Example Calculation

Background from the 20% Cleanest Days		
SO2 =	0.00329 ppm =	8.62 ug/m ³
SO4 = SO2 * 1.5 =		12.92 ug/m ³
(NH4)SO4 = 1.1875 * SO4 =		15.35 ug/m ³
NO2 =	0.0085 ppm =	16 ug/m ³
NO3 = 1.348 * NO2 =		21.55
(NH4)2NO3 = 1.29 * NO3 =		27.80 ug/m ³
(NH4)SO4 + (NH4)2NO3 =		43.15 ug/m ³
PM10 =	22.5	22.5 ug/m ³
Assume 90% RH fRH =	5	
Background extinction =	b back	238.26 Mm ⁻¹

Source	Impact ug/m ³
NO2	0.0000
SO2	0.0000
H2SO4 =	0.00000
SO4 = SO2 * 1.5 =	0
(NH4)2SO4 = 1.375 * SO4 =	0.0000 ug/m ³
(SO2+H2SO4)*1.5*1.375 =	2.14 ug/m ³
NO3 = 1.348 * NO2 =	0.0000 ug/m ³
(NH4)NO3 = 1.29 * NO3 =	0.0000 ug/m ³
PM10 =	0.1 ug/m ³
Source extinction =	b source 0.100 Mm ⁻¹

Change in Deciview	
$Ddv = 10 * \ln (b \text{ back} + b \text{ source} / b \text{ back}) =$	0.004 dv

6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion. The stacks associated with the proposed project are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

7.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the production rate of the Granular MAP/DAP Plant, as described in this report, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

APPENDIX A - EMISSIONS CALCULATIONS

ACTUAL EMISSION RATES

As there is almost no operating history associated with the granular MAP plant, the actual emissions are projected using the 2001 initial compliance test for the MAP Plant, and based on estimates presented to FDEP on the loadout, as follows:

Unit	Hours Projected	<u>Fluorides</u>		<u>Particulate Matter</u>		<u>Nitrogen Oxides</u>	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
MAP Plant	7166	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	7166	NA	NA	1.03	3.7	NA	NA

Note: Tpy emissions are calculated as: lb/hr x hrs/yr / 2000 lbs/ton

ALLOWABLE EMISSION RATES

GMAP/DAP, F	= 31.8 tph P2O5 x 0.037 lb F/ton P2O5 x 8760 hrs/yr x ton/2000 lbs	= 1.18 lb/hr = 5.2 tpy
GMAP/DAP, PM	= 60 tph product x 0.17 lb F/ton product x 8760 hrs/yr x ton/2000 lbs	= 10.2 lb/hr = 44.7 tpy
GMAP/DAP, NOx	= 140 lb/MMCF x 0.03 MMCF/hr x 8760 hrs/yr x ton/2000 lbs	= 4.2 lb/hr = 18.4 tpy
Loadout, PM	= 0.02 gr/cf x 6000 cfm x lb/7000 gr x 60 min/hr x 8760 hrs/yr x ton/2000 lbs	= 1.03 lb/hr = 4.5 tpy

NET EMISSIONS INCREASES

F	= (5.2 – 1.86) tpy = 3.3 tpy (exceeds fluorides PSD significant level of 3 tpy)
PM	= (49.2 – 28.7) tpy = 20.5 tpy (exceeds PM10 PSD significant level of 15 tpy)
NOX	= (18.4 – 7.2) tpy = 11.2 tpy (below NOX PSD significant level of 40 tpy)

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions		
Permitted	Actual	
0.98	0.52	lbs of fluorides per hour,
0.037	0.021	lbs of fluorides per ton of equivalent P ₂ O ₅ feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average			
25.0	Feedrate (tons P ₂ O ₅ /hr)		
47.1	Production rate (tons GMAP/hr)		
Scrubber	.Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NH ₃ Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

THIS DISK CONTAIN PARTICULATE MATTER (PM) AND FLUORINE MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS AND BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

C2-ASI	EXE	135,810	03-29-01	PM CLASS 2 AREA SIA ANALYSIS
C1-ASI	EXE	41,433	03-29-01	PM CLASS 1 AREA SIA ANALYSIS
FLUORINE	EXE	110,802	03-29-01	FLUORINE DEMINIMUS ANALYSIS
BPIP-01	EXE	20,062	03-29-01	BUILDING DOWNWASH CALCULATIONS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE PM ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:
C2-SIA AND PRESS ENTER.

THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES IN ASCII FORMAT DESCRIBED AS FOLLOWS:

CLASS 2 AREA IMPACT ANALYSIS:

C2ASI-87	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1987
C2ASI-88	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1988
C2ASI-89	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1989
C2ASI-90	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1990
C2ASI-91	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1991

CLASS 1 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES:

C1ASI-87	OUT	40,712	03-28-01	IMPACT ANALYSIS FOR 1987
C1ASI-88	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1988
C1ASI-89	OUT	40,593	03-28-01	IMPACT ANALYSIS FOR 1989
C1ASI-90	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1990
C1ASI-91	OUT	40,608	03-28-01	IMPACT ANALYSIS FOR 1991

FLUORINE IMPACT ANALYSIS:

FL87	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1987
FL88	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1988
FL89	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1989
FL90	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1990
FL91	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-01.EXE. BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THE FOLLOWING BPIP FILES ARE PROVIDED:

USAC4SIT	INP	2,078	03-27-01	INPUT FOR SRC SOURCES
USAC4SIT	OUT	3,898	03-27-01	OUTPUT FOR SRC SOURCES
USAC4SIT	SUM	49,836	03-27-01	SUMMARY FOR SCR SOURCES

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CALL ME.

MARCH 30, 2001

MARK KOLETZKE, P.E.

KOGLER AND ASSOCIATES

(352) 377-5822

APPENDIX B - CURRENT TITLE V PERMIT CONDITIONS



Jeb Bush
Governor

Permittee:
U.S. Agri-Chemicals Corporation

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

FINAL Permit No.: 1050051-003-AV
Facility ID No.: 1050051
SIC Nos.: 28, 2874
Project: Revised Title V Air Operation Permit

Note: The previous Title V Operation Permit is replaced by this version (effective date 5/15/00, DEP Project No.: 006).

This permit is for the operation of the Ft. Meade Chemical Plant facility. This facility is located at 3225 State Road 630 West, Ft. Meade, Polk County; UTM Coordinates: Zone 17, 416.2 km East and 3068.7 km North; Latitude: 27° 44' 40" North and Longitude: 81° 51' 08" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX TV-3, TITLE V CONDITIONS (version dated 4/30/99)
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/7/96)
TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/7/96)
FIGURE 1 - SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSION
AND MONITORING SYSTEM PERFORMANCE REPORT (version dated 7/96)

Effective Date of Original Issuance: 09/11/98
Effective Date of Revision: 5/15/00
Renewal Application Due Date: 03/13/03
Expiration Date: 09/09/03

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

W.C. Thomas, P.E.
District Air Program Administrator
Southwest District

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of two phosphoric acid plants -- A and B Trains, one phosphoric acid plant tank farm, one MAP Plant, one MAP Loadout System, two sulfuric acid plants, one auxiliary boiler, one molten sulfur storage and handling system, and one lime silo.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 13, 1996, this facility is not a major source of hazardous air pollutants (HAPs). Based on the proposed rule "National Emission Standards for Hazardous Air Pollutants Phosphoric Acid Manufacturing and Phosphate Fertilizers Production" (reference Federal Register 12/27/96), this facility may be considered a major source of HAPS, and permitting considerations will be deferred until the promulgation of this MACT rule.

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U.</u> <u>ID No.</u>	<u>Brief Description</u>
-005	Phosphoric Acid Plant A-Train
-006	Auxiliary Boiler
-016	Sulfuric Acid Plant #1
-017	Sulfuric Acid Plant #2
-020	Phosphoric Acid Plant B-Train
-021	Phosphoric Acid Plant Tank Farm
-028	Molten Sulfur System -- Sulfur Tank
-029	Molten Sulfur System -- Sulfur Pit
-030	Molten Sulfur System -- Sulfur Rail Unloading
-031	Molten Sulfur System -- Sulfur Truck Unloading
-032	Prilled MAP Plant (includes MAP Storage & Loadout)
-033	Lime Silo
-035	Phosphogypsum Stack

Unregulated Emissions Units and/or Activities

-036 Facility-Wide Fugitive Emissions

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History / ID Number Transfers

These documents are on file with permitting authority:

Initial Title V Permit Application received June 13, 1996

Revised Title V Permit Application received December 17, 1998

Additional Information Request dated February 17, 1998

Additional Information Response received May 15, 1998

Subsection E. This section addresses the following emissions unit(s).

E.U.

ID No. Brief Description

-032 Prilled MAP Plant (includes MAP Storage & Loadout)

The 60 TPH prilled MAP plant is based on the Swift prill tower process. In this process, diluted wet process phosphoric acid is reacted with ammonia vapor in a pipe reactor and sprayed into the top of the tower to produce MAP. Ambient air entering the bottom of the tower removes moisture in the MAP as they fall by gravity to the bottom of the tower. The gas in the tower is evacuated to a venturi scrubber. Product MAP is cooled in a cooler. The gas in the cooler is evacuated to a smaller venturi scrubber. The gas and liquid from both venturi scrubbers enter a cyclonic separator prior to being discharged to the atmosphere via a stack. A portion of the scrubber liquid is used to adjust the concentration of phosphoric acid in the day tank. Fresh water and/or cooling pond water is used to maintain scrubber water balance. The cooler discharges to a transfer system which carry the MAP to a storage building. From the storage building, MAP is loaded into railcars by a loadout system. Dust from the loadout system is controlled by a baghouse.

{Permitting note(s): These emissions units are regulated under Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards and Rule 62-296.403, F.A.C., Phosphate Processing.}

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

E.1. Capacity.

- a. The production rate of the Prilled MAP Plant shall not exceed 40.9 tons of MAP Product per hour, except as allowed by Condition E.1.b below.
- b. In order to regain the originally intended plant capacity of 60 tons of MAP product per hour, the permittee may conduct a performance test at a rate higher than 40.9 tons of MAP product per hour and up to 60 tons of MAP product per hour by notifying the Department at least 15 days in advance of the special test. The plant may be operated at the higher rate for only seven consecutive days and then must resume operation at no higher than 40.9 tons of MAP product per hour. Upon written approval of the performance test by the Department, which shall include a determination that the plant will be able to meet the limits of conditions E.2, E.3 and E.4, the plant will be authorized to operate at a rate up to and including the rate experienced during the performance test. In the process of regaining the originally intended capacity of 60 tons of MAP product per hour, the permittee shall not be required to undergo another PSD review and BACT determination for PM/PM10 under Rule 62-212.400, F.A.C.

or another BACT review for fluorides under Rule 62-296.403, F.A.C., unless the permittee submits an application to increase the plant's maximum operating capacity above 60 tons of MAP product per hour.

[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE), Air Construction permit AC53-260190/PSD-FL-222]

Emission Limitations and Standards

E.2. Particulate matter(PM)/PM₁₀ emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.4 pounds per ton of MAP product;
- b. 16.4 pounds per hour;
- c. 71.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 40.9 tons per hour of MAP product.}

E.3. Fluoride emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.019 pounds per ton of P₂O₅ input;
- b. 0.39 pounds per hour;
- c. 1.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 20.5 tons per hour P₂O₅ input.}

E.4. Visible emissions from the Prilled MAP Plant scrubber stack shall not exceed 15% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

E.5. Visible emissions from the Prilled MAP Plant Loadout baghouse shall not exceed 5% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

Test Methods and Procedures

E.6. The Prilled MAP Plant scrubber stack shall be tested for the following pollutants annually, on or during the 60 day period prior to December 30.

- a. total fluorides;
- b. PM/PM₁₀;
- c. visible emissions.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.7. The Prilled MAP Plant Loadout baghouse shall be tested for visible emissions annually on or during the 60 day period prior to December 30.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.8. Compliance with the emission limitations of Conditions E.6 and E.7 shall be determined using EPA Methods 1, 2, 4, 5, 9 and 13A or 13B contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-297, F.A.C. The actual production rate shall be specified in each test report. Failure to include the actual production rate in the report may invalidate the test.

[Rule 62-297, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.9. The Department's Bureau of Air Regulation Office in Tallahassee and the Southwest District Office shall be notified in writing at least 15 days prior to any emission test.

[Rule 62-297.310, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.10. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

E.11. The Prilled MAP Plant shall be subject to the following:

- a. Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hour in any 24 hour period unless specifically authorized by the Department for longer duration.
- b. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- c. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- d. In case of excess emissions resulting form malfunctions, each source shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

Monitoring of Operations

E.12. In order to provide reasonable assurance, when the MAP Plant and MAP Loadout System are operating, that the pollution control system is operating properly, the permittee shall comply with Facility-wide Condition No. 9.

[Rule 62-4.070(3), F.A.C.].

E.13. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the scrubber operating parameters. The record log shall contain, at a minimum:

- a. the volumetric liquid flow rate (gallons per minute),
- b. the scrubber pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day that the MAP Plant operates.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

E.14. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the baghouse operating parameters. The record log shall contain, at a minimum:

- b. the pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day of operation of the MAP Loadout System.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

Recordkeeping and Reporting Requirements

E.15. In order to comply with Condition E.1, the permittee shall maintain hourly records of the MAP production rate.

[Rule 62-213.440(1), F.A.C.]

APPENDIX C - CURRENT CONSTRUCTION PERMIT CONDITIONS



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

PERMITTEE:

U.S. Agri-Chemicals Corp.
3225 State Road 630 West
Ft. Meade, FL 33841

Permit No.: 1050051-008-AC
Effective Date: 09/28/1999
Expiration Date: 6/1/02
Project: Granular MAP/DAP Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-204 through 297, and Chapter 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

This permit is for the modification of the existing Prilled monoammonium phosphate (MAP) Plant to allow the production of up to 50 tons per hour (TPH) of granular MAP and/or diammonium phosphate (MAP/DAP) fertilizer. A new Granular MAP/DAP fertilizer plant will be constructed which shares some process equipment and air pollution control equipment with the existing Prilled MAP Plant. The plants will not be operated concurrently. When operating as the Prilled MAP Plant, the facility shall comply with the conditions contained Permit No. PSD-222-FL. When operating as the Granular MAP/DAP Plant, the facility shall comply with the conditions contained in this permit. Additionally, granular fertilizer from this plant and the Bartow facility may be stored in the existing storage building and loaded into railcars or trucks by the existing loadout system.

The new granulation equipment emission sources include the following: reactor, granulator, natural gas fired dryer, product screens, storage bin, bucket elevators, conveyors, and grinding mills. New air pollution control equipment includes a dryer high efficiency cyclone and a cooler high efficiency cyclone. The following existing air pollution control equipment, used at the Prilled MAP Plant, are also used to control emissions from the Granular MAP/DAP Plant: Tower Venturi, Cooler Venturi, and the cyclonic separator. The Granular MAP/DAP Plant process emission sources and associated air pollution control equipment are listed on the next page.

Granular MAP and DAP are made by reacting anhydrous ammonia and phosphoric acid in a covered reaction tank with the further addition of ammonia and acid in a granulator. The granulated product is then dried in a rotary drier. The dried product is sized by screening, grinding of oversized and recycling of undersized. The properly sized product is conveyed to the storage building for eventual loadout.

Emissions from the reactor and granulator are directed to a venturi/cyclonic ammonia absorber (R-G Ammonia Absorber) to recover ammonia and then to the existing Tower Venturi. The R-G Ammonia Absorber also controls particulate matter emissions. Emissions from the rotary dryer and material handling equipment are controlled by the new dryer cyclone and then the Tower

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Venturi. Emissions from the cooler are controlled by the new Cooler Cyclone and the Cooler Venturi. The Tower Venturi and Cooler Venturi are ducted to the cyclonic separator. The cyclonic separator contains a chevron-type mist eliminator to further reduce entrained scrubber liquors prior to exhaust to the atmosphere.

Granular MAP/DAP Emission Sources & Associated Control Equipment

Process Emission Source/Identifier*	Control Equipment
MAP/DAP Reactor	Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
MAP/DAP Granulator	
Dryer	Dryer Cyclone, Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Screen Feed Elevator	
Product Screen A	
Product Screen B	
Product Bin	
Oversize Mill A	
Oversize Mill B	
Product Feeder	
Recycle Conveyor	
Recycle Elevator	
Product Transfer Conveyor	
Fines Reclaim Conveyor	covered conveyor
Fines Reclaim Hopper	located inside storage building
Cooler (<i>existing</i>)	Cooler Cyclone, Cooler Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Product Elevator (<i>existing</i>)	enclosed
Storage Transfer Conveyor (<i>existing</i>)	covered conveyor
Notes:	
1. Emissions from the reactor and granulator are ducted to the R-G Ammonia Absorber. Its primary purpose is to recover ammonia, so it is not considered control equipment. However, it controls PM/PM ₁₀ emissions and could be a source of fluoride emissions.	
2. The Tower Venturi is labeled "large venturi" in the June 22, 1999 process flow diagram.	
3. The Cooler Venturi is labeled "small venturi" in the June 22, 1999 process flow diagram.	
4. All equipment is new unless otherwise noted.	

*from process flow diagram received June 22, 1999

Rule Applicability Notes:

- The granular DAP Method of Operation is subject to 40 CFR 60 Subpart V, *Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants* and Rule 62-296.403(f), *Phosphate Processing*.
- The granular MAP Method of Operation is subject to Rule 62-296.403(i), F.A.C., *Phosphate Processing*. This rule requires Best Available Control Technology (BACT) to control fluoride emissions during granular MAP production.

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- The facility has requested that this project be permitted as a non-PSD source. Therefore, this permit contains limitations to ensure that this modification does not exceed PSD significant increase levels.

Location: Ft. Meade Chemical Plant, State Road 630, 2 miles west of Ft. Meade, Polk County
UTM: 17-416.2 km East 3068.7 km North
Latitude: 27° 44' 40" North and **Longitude:** 81° 51' 08" West.
Facility ID No.: 1050051

Referenced Attachments

Best Available Control Technology (BACT) Determination dated September 10, 1999
Alternate Procedures and Requirements ASP No. 95-H-01

Permit History: No previous permits for the Granular MAP/DAP Plant. The Prilled MAP Plant is permitted under Permit No. PSD-222-FL.

The following conditions apply to the emissions unit listed below:

EU No.	EU Description
038	Granular MAP/DAP Plant
Notes: EU = Emissions Unit	
Please reference Permit No. and Emission Unit No. in all correspondence, test report submittals, etc.	

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions and BACT determination dated September 10, 1999 [Rule 62-4.160, F.A.C.]
2. All applicable rules and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations.
[Rule 62-210.300, F.A.C.]
3. Unless otherwise indicated, the construction of the Granular MAP/DAP Plant shall be in accordance with the capacities and specifications in the application or in updated submittals.
[Rule 62-210.300, F.A.C.]
4. Pursuant to Rule 62-204.800, F.A.C., the permittee is subject to 40 CFR 60 Subpart V and the general provisions of 40 CFR 60 Subpart A, where applicable.

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Operation Limitations

5. The dryer shall be fired with natural gas only.
[Rules 62-4.160(2), F.A.C. and 62-213.440(1), F.A.C.]
6. The Granular MAP/DAP Plant is allowed to operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]
7. The P₂O₅ process input rate shall not exceed 26.5 TPH (daily average basis) and 158, 920 tons per consecutive 12-month period.
[Rule 62-210.200(PTE), F.A.C.]
8. The production rate of granular MAP/DAP shall not exceed 50 TPH (daily average basis) and 300,000 tons per consecutive 12-month period for the total of both products. If any prilled MAP is produced during the same 12-month period, the above annual limitation is presented by the following equation:

$$G = 300,000 - P/1.9$$

where:

G = granular MAP/DAP production limit, tons per consecutive 12-month period

P = production of prilled MAP, tons per consecutive 12-month period

[Rule 62-210.200(PTE), F.A.C.]

Permitting Note: The production of prilled MAP is currently limited to 358,284 tons per consecutive 12-month period (i.e., 40.9 TPH x 8760 hrs/yr) in Permit No. PSD-FL-222. If the prilled MAP production limit is increased, the above condition must be modified to ensure that the potential fluoride emissions from the production of prilled MAP and granular MAP/DAP do not exceed 2.94 tons per consecutive 12-month period.

9. The permittee shall not allow any person to circumvent any pollution control device nor allow the emissions of air pollutants without the applicable air pollution control device operating properly.
[Rule 62-210.650, F.A.C.]

10. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any emissions unit whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling without taking reasonable precautions to prevent such emissions.
[Rule 62-296.320(4)(c)1, F.A.C.]

11. Reasonable precautions may include, but shall not be limited to the following:
 - (a) Paving and maintenance of roads, parking areas and yards.

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- (b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- (c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stockpiles and similar emissions units.
- (d) Removal of particulate matter from roads and other paved areas under the control of the permittee of the emissions unit to prevent reentrainment, and from buildings or work areas to prevent particulate matter from becoming airborne.
- (e) Landscaping or planting of vegetation.
- (f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- (g) Confining abrasive blasting where possible.
- (h) Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c)3, F.A.C.]

12. The following work practices (reasonable precautions) shall be followed:

- (a) The site yard, stockpiles, roadways, parking areas under control of the permittee shall be maintained to control emissions of unconfined particulate matter.
- (b) Apply water when necessary to control emissions of unconfined particulate matter.
- (c) Maintaining covers/enclosures for the Fines Reclaim Conveyor, Product Elevator, and Storage Transfer Conveyor.

[Rule 62-296.320(4)(c)2, F.A.C., response letter dated June 22, 1999]

13. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320, F.A.C.]

Emission Limitations

14. Total fluoride emissions from the Granular MAP/DAP Plant shall not exceed 0.98 lb/hr, 2.94 tons per consecutive 12-month period, and 0.037 lb F/ton of P₂O₅ input.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: This limitation is more stringent than that contained in 40 CFR, Subpart V.

15. Total fluoride emissions from the Granular MAP/DAP Plant and the Prilled MAP Plant combined shall not exceed 2.94 tons per consecutive 12-month period.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: Permit No. PSD-FL-222 limits annual total fluoride emissions to 1.7 tons from the Prilled MAP Plant.

16. PM/PM₁₀ emissions from the Granular MAP/DAP Plant shall not exceed 8.38 lb/hr, 25.1 tons per consecutive 12-month period, and 0.168 lb PM/ton of product.

[Rules 62-210.200 (PTE) & 62-212.400, F.A.C.]

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17. Visible emissions from the cyclonic separator stack shall not exceed 15% opacity.
[Requested in permit application dated 5/17/99]

Excess Emissions

18. The Granular MAP/DAP Plant shall be subject to the following:

- (a) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
- (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- (c) Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- (d) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- (e) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[40 CFR 60 Subpart A, Rule 62-210.700, F.A.C.]

Monitoring of Operations

19. The permittee shall install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ± 5 percent over its operating range.
[40 CFR 60.223(a); Rule 62-204.800, F.A.C.]

20. The permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate (TPH) of phosphorus-bearing feed using a flow monitoring device meeting the requirements of Specific Condition No. 19 and then by proceeding according to the following procedure:

The equivalent P_2O_5 feed rate (P) shall be computed for each operating day using the equation:

$$P = (M_p) \times (R_p)$$

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where: M_p = total mass flow rate of phosphorus-bearing feed (TPH)
 R_p = P_2O_5 content, decimal fraction

The monitoring device required in Specific Condition No. 19 shall be used to determine total mass flow rate of the phosphorus-bearing feed. An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P_2O_5 content of the feed.

[40 CFR 60.223(b); Rules 62-204.800 & 62-4.070(3), F.A.C.]

21. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure and permanently record the pressure drop separately across the Tower Venturi and Cooler Venturi scrubbers. The monitoring devices shall have an accuracy of ± 5 percent over its operating range.

[40 CFR 60.223(c); Rule 62-204.800, F.A.C.]

22. The permittee shall monitor and record the pressure drop of the R-G Ammonia Absorber at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

23. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure the liquid flowrate for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi. The flowrates shall be recorded at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

24. The permittee shall determine and record the scrubbing medium nitrogen to phosphorus (N:P) ratio for each of the following, via grab or composite sample, at least once per operating day: R-G Ammonia Absorber and final scrubbing system (i.e., Tower Venturi, Cooler Venturi, and cyclonic separator).

[Rule 62-213.440(1)(b), F.A.C.]

25. Recordkeeping for Specific Condition Nos. 22, 23, and 24 shall include the date and time of the measurements and the name of the person responsible for recording the measurements. This does not apply to continuous recording devices.

[Rule 62-213.440(1)(b), F.A.C.]

26. In order to provide reasonable assurance that the Granular MAP/DAP Plant air pollution control equipment is functioning properly during plant operation, the following set of scrubber operating parameters shall be maintained at a minimum of 90% of the values measured and recorded during any single prior satisfactory compliance tests conducted at a minimum of 90% of the maximum allowed operation rate: liquid flowrate and pressure drop for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi and N:P ratio for the R-G Ammonia Scrubber and final scrubber system. Satisfactory compliance tests conducted below 90% of the maximum allowed operating rate will establish a set of new minimum scrubber parameter values for that lower operating rate (this does not exclude the use of parameter values previously established for higher operating rates).

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A value outside of the acceptable scrubber operating parameter ranges does not necessarily constitute a violation, but rather establishes a requirement for an additional compliance test or tests as specified below:

Within 30 days of the operation of a pollution control device lower than 90% of the minimum acceptable numerical control parameter determined during satisfactory compliance tests as detailed above, the permittee shall conduct a compliance test for fluoride and PM/PM₁₀ (except in the case of the N:P ratio, for which only a fluoride test is required) with the pollution control device operating at no higher than 110% of the lower value at which it operated, in order to demonstrate compliance. Prior notification shall be given to the Air Compliance Section of the Department's Southwest District (DEP-SWD),

The test result(s) shall be submitted to the Air Compliance Section of the DEP-SWD within 45 days of testing. Acceptance of the test(s) by the Department will establish whether the operation of the pollution control device, at the observed parameter, was not a violation of this permit. Furthermore, the permittee may submit an application to amend this permit to reflect the lower control parameter.

[Rules 62-4.070(3) & 62-210.650, F.A.C.]

Compliance Testing Requirements

27. Initial Compliance Test (Granular MAP/DAP Plant) Within 60 days after achieving the maximum production rate at which the MAP/DAP Plant will be operated, but not later than 180 days after its initial startup, the permittee shall conduct initial compliance tests for fluorides, PM/PM₁₀, and visible emissions on the cyclonic separator stack.

[40 CFR 60.8(a) and Rule 62-297.310(7)(a)1, F.A.C.]

28. Subsequent Compliance Tests. The cyclonic separator stack shall be tested for fluorides and visible emissions each federal fiscal year after the initial compliance test, during the period May - October. In addition, in the year prior to the five-year anniversary of the initial PM/PM₁₀ compliance test, conduct a PM/PM₁₀ compliance test on the cyclonic separator stack.

[Rule 62-297.310(7)(a)3 & 4, F.A.C.]

29. Test Methods

(a) Fluoride emissions testing shall be conducted in accordance with EPA Method 13A or 13B or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. (see attached ASP No. 95-H-01). An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P₂O₅ content of the phosphate feed.

(b) PM/PM₁₀ emissions testing shall be conducted in accordance with EPA Method 5 or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. The sample volume for each run shall be at least 30 dscf.

(c) When both particulate matter and visible emissions testing are required, the tests shall be conducted concurrently.

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(d) Visible emissions observations shall be conducted in accordance with EPA Method 9 and shall be a minimum of 30 minutes.

(e) The minimum requirements for stationary point source emission test procedures shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 60 Appendix A.

[Rules 62-296.320(4)(a)3(i), 62-297.310(4)(a)2, 62-4.070(3) & 62-297.401, F.A.C. 40 CFR 60.224]

30. At least 30 days prior to the date on which the initial Granular MAP/DAP Plant compliance test (15 days prior for all other tests) is due to begin, the permittee shall provide written notification of the test to the Air Compliance Section of the Department's Southwest District (DEP-SWD). The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and telephone number of the person conducting the test.

[Rule 62-297.340(1)(i), F.A.C.]

31. Test Operation Rate. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity as defined below. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit (i.e., 50 TPH production rate and 26.5 TPH P₂O₅ input rate).

[Rule 62-297.310(2), F.A.C.]

32. Test Report. The permittee of an air pollution emissions unit, for which compliance tests are required, shall file a report with the Air Compliance Section of the DEP-SWD on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after each test is completed. The test report shall provide, at minimum, the information required in Rule 62-297.310(8), F.A.C. In addition the report shall provide the following information for each test run:

- MAP/DAP production rate (TPH)
- P₂O₅ input rate (TPH)
- Liquid flowrate (GPM) and pressure drop (inches H₂O) for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi
- Makeup liquid of the final scrubbing system
- N/P ratio for the R-G Ammonia Absorber and the final scrubbing system

[Rule 62-297.310(8), F.A.C.]

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Ft. Meade Chemical Plant

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Project: Granular MAP/DAP Plant

33. Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

Reporting And Recordkeeping Requirements

34. The permittee shall furnish written notification to the Department as follows:

- (a) A notification of the date construction of the Granular MAP/DAP Plant is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
- (b) A notification of the anticipated date of initial startup of the Granular MAP/DAP Plant postmarked not more than 60 days nor less than 30 days prior to such date.
- (c) A notification of the actual date of initial startup of the Granular MAP/DAP Plant postmarked within 15 days after such date.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

35. Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

36. A recordkeeping log shall be established and maintained to document compliance with Condition Nos. 7, 8, and 20. The daily logs shall be updated and completed by the end of the operating day. The monthly logs shall be updated and completed by the 15th day of the following month. The logs shall include, at a minimum, the following:

daily (each operating day)

- (a) date
- (b) hours of operation
- (c) the calculated P₂O₅ feed rate (TPH, daily average basis)
- (d) the calculated MAP/DAP production rate (TPH, daily average basis)

monthly

- (e) month
- (f) monthly P₂O₅ input and production of granular MAP/DAP and prilled MAP (tons)
- (g) P₂O₅ input and production of granular MAP/DAP and prilled MAP for the most recent consecutive 12-month period (tons)
- (h) if prilled MAP was produced during the most recent consecutive 12-month period, calculate the reduced production limit for granular MAP/DAP in accordance with Specific Condition No. 8 (tons per consecutive 12-month period)

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Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC ~
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These records shall be retained on file at the facility for at least five years and shall be made available to the Department upon request.

[Rule 62-213.440(1)(b), F.A.C.; 40 CFR 60.223(b)]

37. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department 60 days before the expiration of the permit.

[Rule 62-4.090, F.A.C.]

38. The permittee shall submit an Annual Operating Report to the Department's Southwest District office by March 1 of the following year for the previous year's operation.

[Rule 62-210.370(3), F.A.C.]

PSD Applicability

39. Based on the limitations contained in this permit, this modification at an existing PSD major facility is not considered a significant modification subject to PSD review on the basis that the net emissions increases associated with the modification were determined to be not significant (ref. Table 2, Rule 62-212.400, F.A.C.). Should the permittee request relaxation of any emission or operational limitations in this permit that would affect the potential to emit of this facility, the Department will evaluate the applicability of the PSD requirements of Chapter 62-212, F.A.C. as if the modifications allowed by this permit had not yet taken place.

[Rule 62-212.400(2)(g), F.A.C.]

Title V Operation Permit

40. A request for an operation permit must be submitted to the Department at least 180 days prior to the expiration date of this construction permit. To properly request an operation permit, the permittee shall submit:


(a) A completed DEP Form 62-210.900(1), F.A.C., *Application for Air Permit - Title V Source*.

(b) A copy of the test report required in Specific Condition No. 32, unless previously submitted.

(c) A copy of the records required in Specific Condition No. 36 for the most recent month.

[Rules 62-4.070(3) & 62-210.300(2), F.A.C.]

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION


FOR W.C. Thomas, P.E.
District Air Administrator
Southwest District

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extra copies

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KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 173-01-01

May 2, 2001

*Al - 5/7
FYI - This came
in today - Copies
have been
distributed ^{short}
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MAY 07 2001

BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: PSD Permit Application
Granular MAP/DAP Production Increase
US Agri-Chemicals, Ft. Meade Chemical Plant

Dear Mr. Linero:

Enclosed are eight (8) copies of a PSD permit application for an increase in the production rate of USAC's Granular MAP/DAP Plant located at Ft. Meade. Also enclosed is a disk containing the air dispersion modeling output.

A check in the amount of \$7500 (permit application fee) is enclosed.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

JB *Raval*
John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

*J. Girardin
C. Nelladay
D. Thomas, SW Dist.
D. Worley, EPA
G. Beulah, NPS*

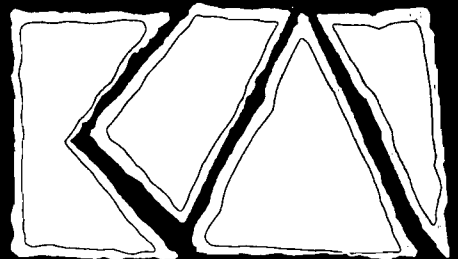
REPORT IN SUPPORT OF
PSD APPLICATION

FOR

INCREASE IN GRANULAR
MAP/DAP PRODUCTION

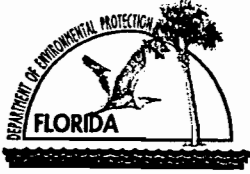
U.S. AGRICHEMICALS CORPORATION
FT. MEADE FACILITY

May, 2001



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX 377-7158



Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: US Agri-Chemicals Corporation	
2. Site Name: Ft. Meade Chemical Plant	
3. Facility Identification Number: 1050051 [] Unknown	
4. Facility Location: Street Address or Other Locator: 3225 State Road 630 West City: Ft. Meade County: Polk Zip Code: 33841-9799	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Ronald L. Brunk, Manager, Env. Eng.	
2. Application Contact Mailing Address: Organization/Firm: Same as Above. Street Address: City: State: Zip Code:	
3. Application Contact Telephone Numbers: Telephone: (863)285-8121 Fax: (863)285-7088	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	5-7-01
2. Permit Number:	1050051-015-AC
3. PSD Number (if applicable):	PSD-FL-321
4. Siting Number (if applicable):	

RECEIVED

MAY 07 2001

Purpose of Application

Air Operation Permit Application

BUREAU OF AIR REGULATION

This Application for Air Permit is submitted to obtain: (Check one)

- Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.
Current construction permit number: _____
- Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.
Current construction permit number: _____
Operation permit number to be revised: _____
- Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)
Operation permit number to be revised/corrected: _____
- Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.
Operation permit number to be revised: _____
Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Air construction permit to construct or modify one or more emissions units.
- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Phong T. Vo, General Manager of Engineering and Technical Services
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: US Agri-Chemicals Street Address: 3225 State Road 630 West City: Ft. Meade State: FL Zip Code: 33841-9799
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (863) 285-8121 Fax: (863) 285-7088
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i> Signature <u>Phong T. Vo</u> Date <u>5/4/01</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler and Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [] , if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [] , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

(seal)

Date

5/2/01

* Attach any exception to certification statement.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

The proposed project includes an increase in the production rate of Granular MAP/DAP from 50 to 60 tph. The existing Prill/Granular MAP/DAP storage and loadout system will continue to be used without requiring any physical modifications. The proposed project is subject to a PSD review as the expected increases, in the air emissions of particulate matter and fluorides will be greater than the significant pursuant to Rule 62-212 of the Florida Administrative Code.

2. Projected or Actual Date of Commencement of Construction: **12/01/01**

3. Projected Date of Completion of Construction: **12/31/03**

Application Comment

The application includes only information related to the proposed modification, as suggested by FDEP.

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input checked="" type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

DEP TITLE V CORE LIST	
40 CFR 52, 55, 60, 61, 63, 68, 82	
FAC RULES 62-4, 204, 210, 212, 213, 214, 252, 256, 257, 281, 296, 297	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
SO2	A				
FL	B				
PM/PM10	B				
NOx	A				
SAM	A				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: <u>Report</u> <input type="checkbox"/> Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input checked="" type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: <u>100000145871</u>) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Plant</p>			
<p>4. Emissions Unit Identification Number:</p> <p>ID: 032/038 [] No ID</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p>[]</p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) This plant is permitted to produce prilled or granular MAP and DAP.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

VENTURI SCRUBBER

2. Control Device or Method Code(s): **053**

Emissions Unit Details

1. Package Unit: **N/A**

Manufacturer:

Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:

Dwell Temperature: °F

Dwell Time: seconds

Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	30	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	31.8 tph P2O5 input	
4. Maximum Production Rate:	60 tph granular product	
5. Requested Maximum Operating Schedule:		
	24	hours/day
	7	days/week
	52	weeks/year
	8760	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):	Process rate is based on a conversion factor of 0.53	

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): MAP/DAP granular production		
2. Source Classification Code (SCC): 3-01-030-02		3. SCC Units: TONS
4. Maximum Hourly Rate: 60	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Natural gas firing		
2. Source Classification Code (SCC): 3-90-006-89		3. SCC Units: MMCF
4. Maximum Hourly Rate: 0.03	5. Maximum Annual Rate: 263	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

**F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
F	053		EL
PM	053		EL
NOX	NA		NS

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: FL		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.18 lb/hour		5.2 tons/year	
		4. Synthetically Limited? []	
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.037 lb/ton P2O5 input Reference: Proposed BACT		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): FL = 0.037 lbs/ton P2O5 input x 31.8 tph P2O5 = 1.18 lb/hr X 8760 hours x ton/2000 lbs = 5.2 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 0.037 lb/ton P2O5 input		4. Equivalent Allowable Emissions: 1.18 lb/hour 5.2 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 13A/13B			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 10.2 lb/hour		4. Synthetically Limited? <input type="checkbox"/>	
		44.7 tons/year	
5. Range of Estimated Fugitive Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year			
6. Emission Factor: 0.17 lb/ton product Reference: Proposed BACT		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters): PM = 0.17 lbs/ton product x 60 tph = 10.2 lb/hr X 8760 hours x ton/2000 lbs = 44.7 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 0.17 lb/ton product		4. Equivalent Allowable Emissions: 10.2 lb/hour 44.7 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 4.2 lb/hour		4. Synthetically Limited? [] 18.4 tons/year	
5. Range of Estimated Fugitive Emissions: [X] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 140 lb/MMCF Reference: AP-42		7. Emissions Method Code: O	
8. Calculation of Emissions (limit to 600 characters): $\text{NOX} = 140 \text{ lbs/MMCF} \times 0.03 \text{ MMCF/hr} = 4.2 \text{ lb/hr}$ $\times 8760 \text{ hours} \times \text{ton}/2000 \text{ lbs} = 18.4 \text{ tpy}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code: NA		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: NA		4. Equivalent Allowable Emissions: lb/hour tons/year	
5. Method of Compliance (limit to 60 characters): NA			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): No applicable standard.			

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE15	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions: 15 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): BACT	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: FLOW	2. Pollutant(s): N/A
3. CMS Requirement: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other	
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: PRS	2. Pollutant(s): N/A
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
5. Compliance Test Report <input checked="" type="checkbox"/> Attached, Document ID: Report (summary) <input type="checkbox"/> Previously submitted, Date: _____ <input type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation [] Attached, Document ID: _____ [X] Not Applicable
12. Alternative Modes of Operation (Emissions Trading) [] Attached, Document ID: _____ [X] Not Applicable
13. Identification of Additional Applicable Requirements [] Attached, Document ID: _____ [X] Not Applicable
14. Compliance Assurance Monitoring Plan [] Attached, Document ID: _____ [X] Not Applicable
15. Acid Rain Part Application (Hard-copy Required) [] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ [] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Storage and Loadout</p>			
<p>4. Emissions Unit Identification Number:</p> <p><input type="checkbox"/> No ID ID: 037 <input type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) No changes are proposed to the storage and loadout system.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Baghouse; alternatively, a dust suppressant oil may be used.

2. Control Device or Method Code(s): **018/106**

Emissions Unit Details

1. Package Unit: **N/A**
Manufacturer:
Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	N/A	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	150 TPH	
4. Maximum Production Rate:	N/A	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Loadout		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 50 feet	7. Exit Diameter: 1.2 feet	
8. Exit Temperature: 80 F	9. Actual Volumetric Flow Rate: 6000 acfm	10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):			

**E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)**

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Material Loadout		
2. Source Classification Code (SCC): 3-01-030-03		3. SCC Units: TONS
4. Maximum Hourly Rate: 150	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 150 tons Maximum Annual Rate = 525,600 tons (maximum plant rate)		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.03 lb/hour 4.5 tons/year	4. Synthetically Limited? []
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.02 gr/cf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): $PM = 0.02 \text{ gr/cf} \times 6000 \text{ cfm} \times 60 \text{ min/hr} \times \text{lb}/7000 \text{ gr} = 1.03 \text{ lb/hr}$ $\times 8760 \text{ hours} \times \text{ton}/2000 \text{ lbs} = 4.5 \text{ tpy}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from this plant.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions: N/A
3. Requested Allowable Emissions and Units: 1.03 lb/hr	4. Equivalent Allowable Emissions: 1.03 lb/hour 4.5 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT - VE	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE5	2. Basis for Allowable Opacity: [X] Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 5% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: N/A	2. Pollutant(s): N/A
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

REPORT IN SUPPORT OF PSD APPLICATION
FOR
INCREASE IN GRANULAR MAP/DAP PRODUCTION

U.S. AGRI-CHEMICALS CORPORATION
FT. MEADE FACILITY

REPORT PREPARED BY
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GAINESVILLE, FLORIDA
(352) 377-5822

MAY, 2001

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1.0 INTRODUCTION

US Agri-Chemicals (USAC) proposes to increase the production rate of the granular MAP/DAP Plant from 50 tons per hour (tph) to 60 tph at its existing chemical complex at Ft. Meade.

The facility manufactures sulfuric acid, phosphoric acid and ammoniated fertilizers. The existing MAP/DAP Plant can make prilled or granular product, depending on market demand. It is expected that only some pumps and piping may be changed, as necessary, to accomplish the production increase. No major equipment changes are proposed. The increase in granular MAP/DAP production rate will result in an increase in the annual throughput rate of the MAP/DAP storage and loadout system, currently permitted to handle 150 tph of product. Some phosphoric acid normally routed to the USAC Bartow facility will be supplied to the MAP/DAP plant, to accommodate market demand and operation conditions of the Bartow and Ft. Meade facilities. No other emission units will be affected by the proposed project. Plant maps and process flow diagrams are presented in Figures 1-1 to 1-5.

The proposed granular MAP/DAP Plant production increase is expected to result in a significant increase, as defined in Rule 62-212, Florida Administrative Code (FAC), in the emissions of fluorides and particulate matter (see Tables 1-1 and 1-2). This technical evaluation addresses rule applicability, Best Available Control Technology (BACT) and air impact analyses pursuant to Rule 62-212, FAC.

USAC proposes the continued use of the existing venturi scrubbers as BACT for the MAP/DAP Plant with a fluoride emissions limit of 0.037 lb/ton P₂O₅ input; and, a particulate matter emissions limit of 0.17 lb/ton product. These emission limits represent some of the most stringent limitations imposed on MAP/DAP Plants in the US.

FIGURE I-1

SITE LOCATION MAP

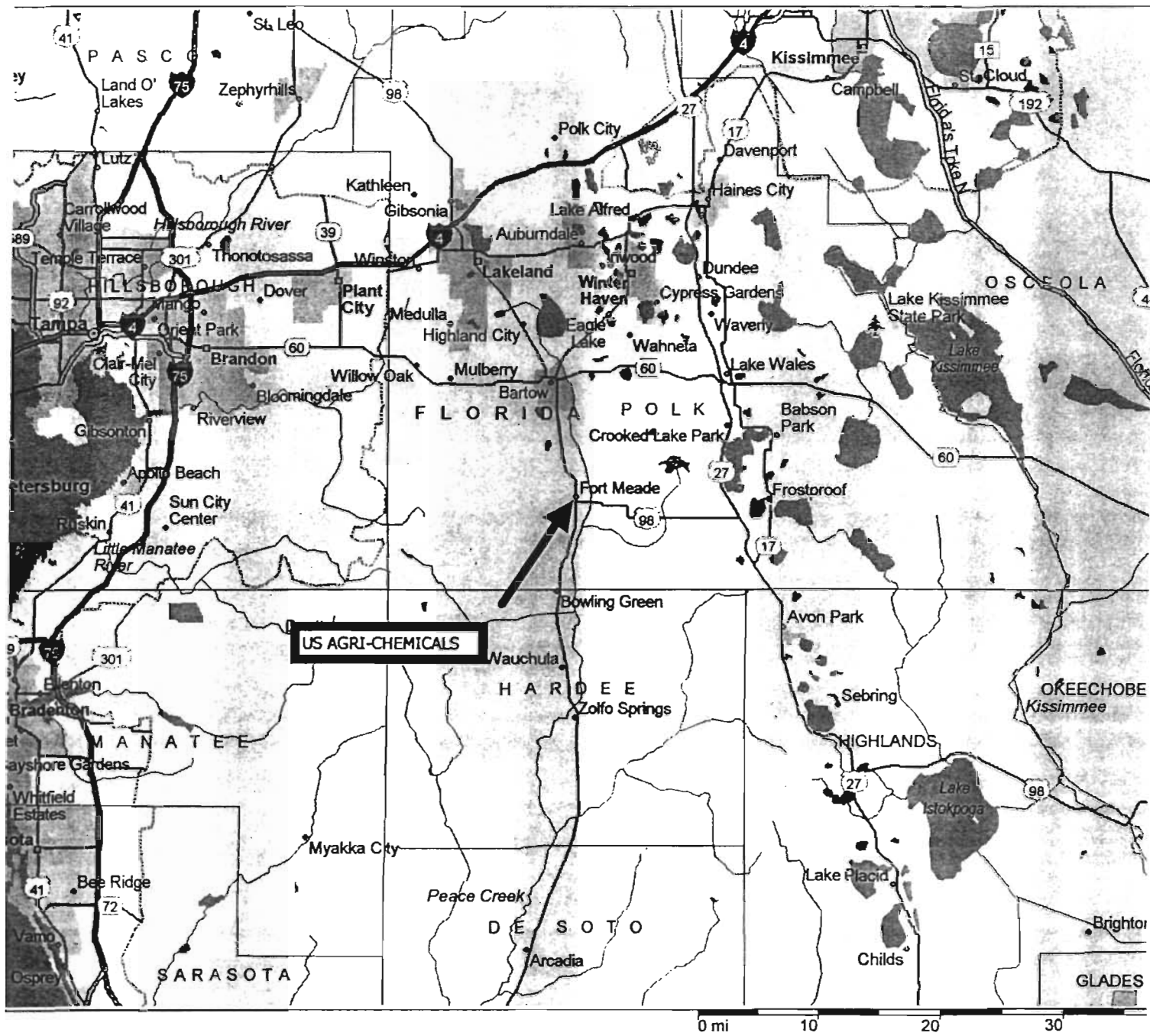


FIGURE 1-2
AREA LOCATION MAP

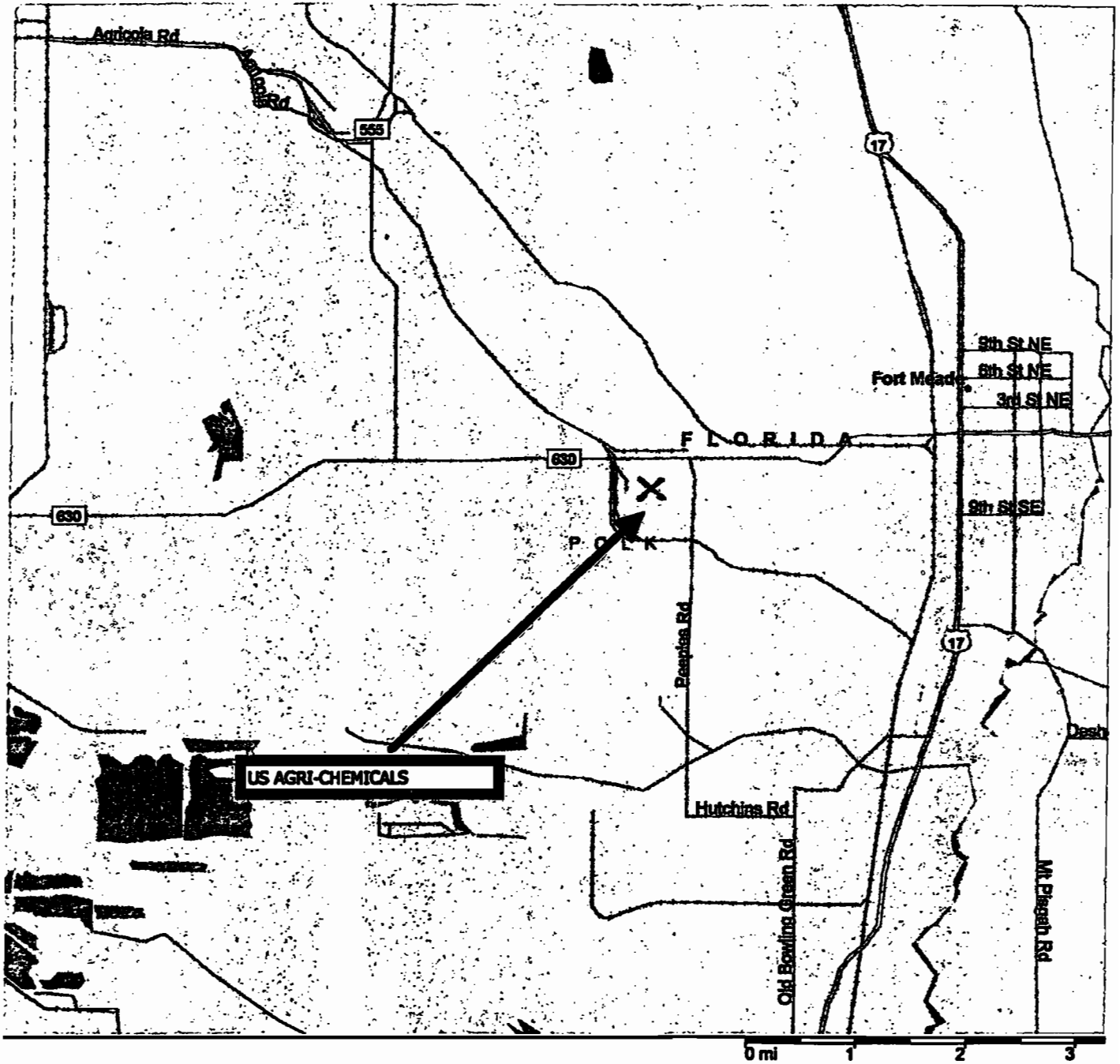
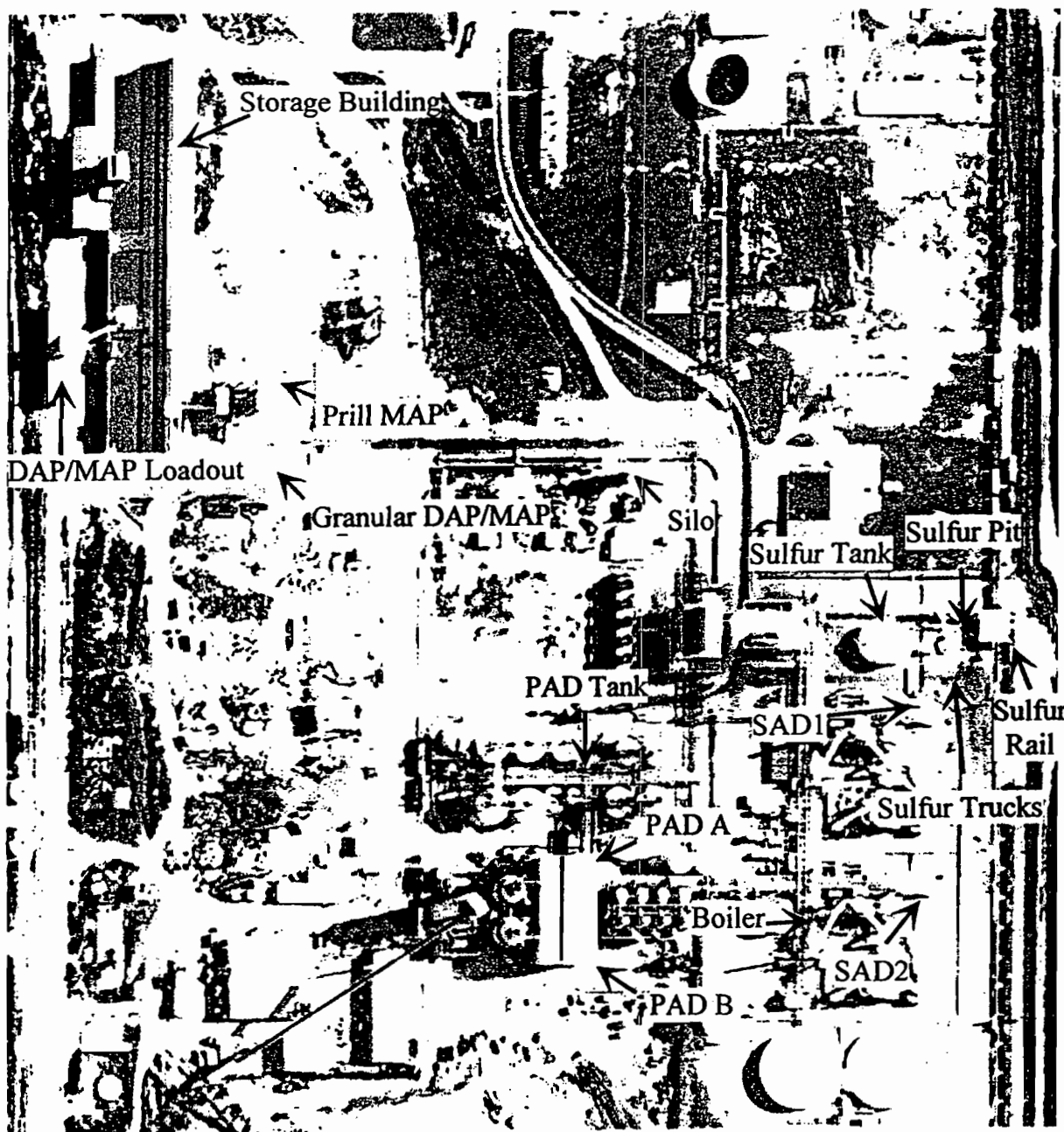


FIGURE 1-3

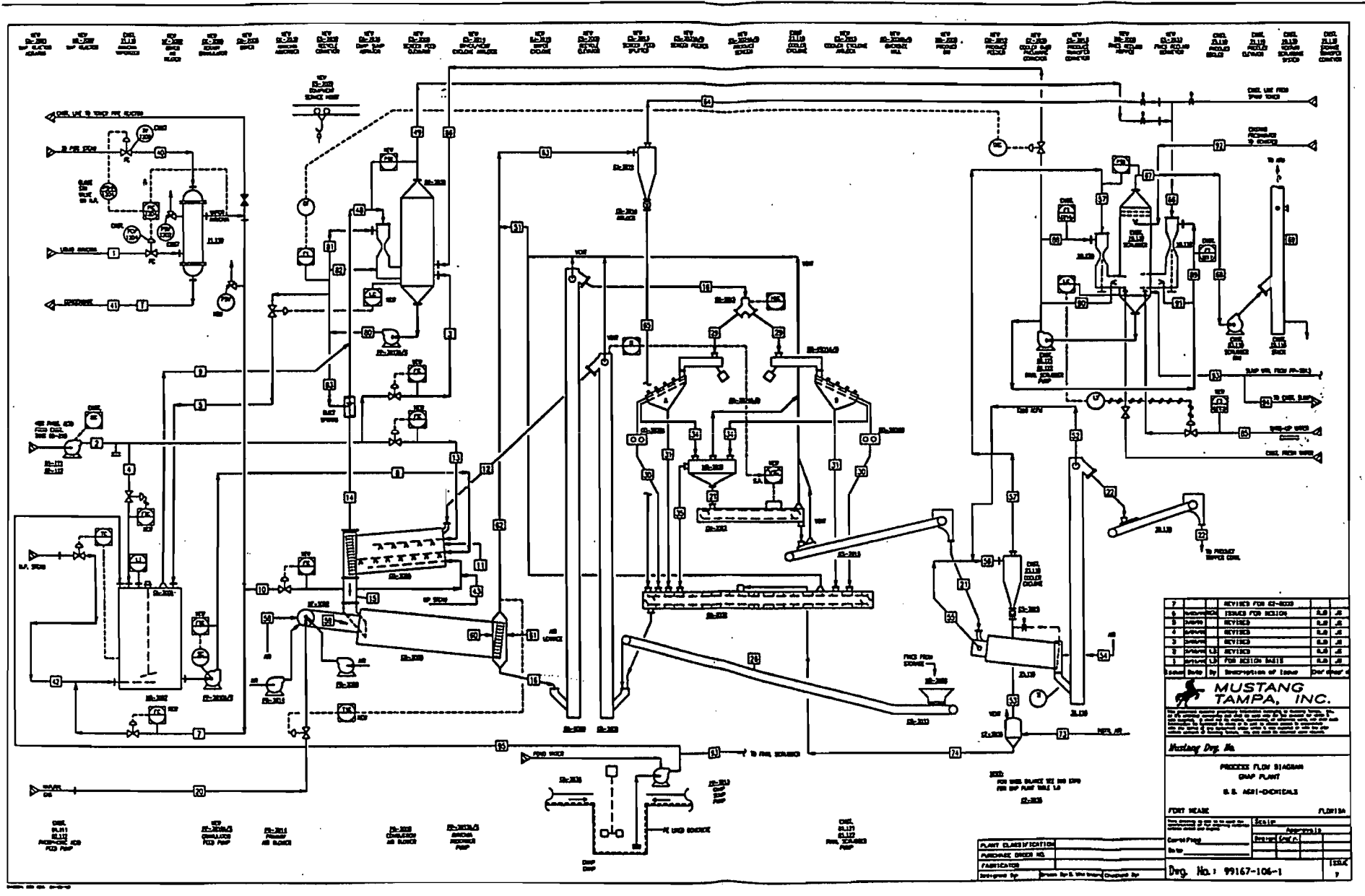
PLOT PLAN



Best Available Copy

FIGURE 1-4

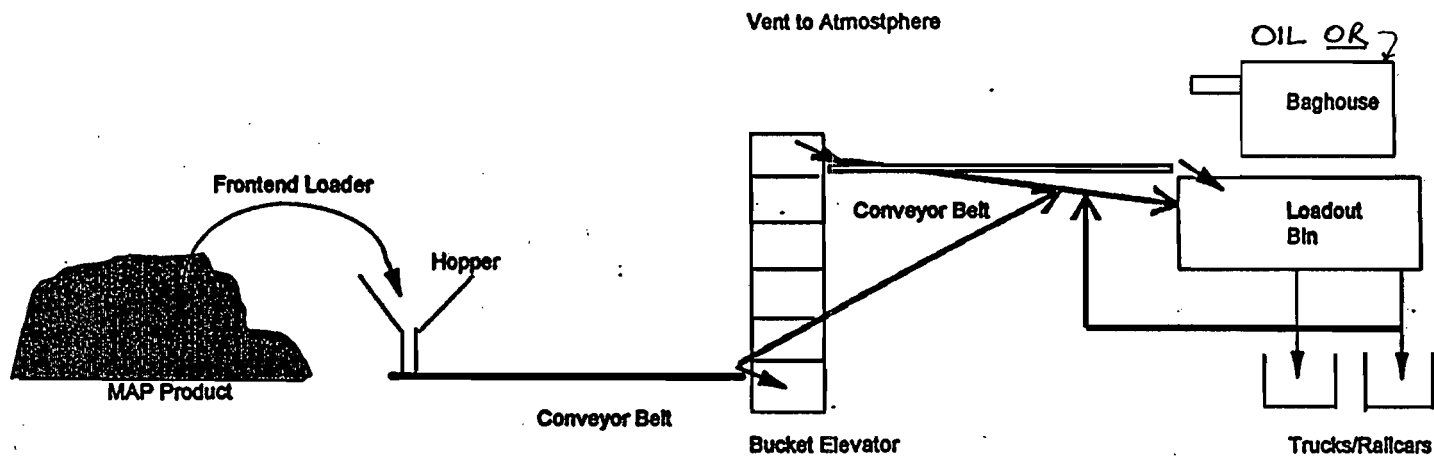
PROCESS FLOW DIAGRAM - GRANULAR MAP/DAP PLANT



7	REVISED FOR 62-8000		
6	REVISED FOR ACTION	2.0	JL
5	REVISED	2.0	JL
4	REVISED	2.0	JL
3	REVISED	2.0	JL
2	REVISED	2.0	JL
1	REVISED FOR ACTION BASIS	2.0	JL
Issued Date: By: Description of Issue: Drawn by:			
MUSTANG TAMP, INC.			
Mustang Div. No.			
PROCESS FLOW DIAGRAM DAP PLANT S. S. AGRI-CHEMICALS			
FORT WORTH	FLORIDA	SCALE	
DATE	DATE	DATE	DATE
DESIGNED BY	CHECKED BY	DATE	DATE
PLANT CLASSIFICATION		PURCHASE ORDER NO.	
FABRICATOR		DATE	
DRAWING NO.		DATE	
DESIGNED BY		CHECKED BY	
DATE		DATE	
DRAWING NO. 99167-106-1		156X	

FIGURE 1-5

MAP/DAP LOADOUT PROCESS FLOW DIAGRAM



— Gas flow
—> Material flow

U.S. Agri-Chemicals Corporation
MAP Plant
FL. Meade, Florida
Loadout Process Flow Diagram
dwg: LOADFLOW

TABLE 1-1
SUMMARY OF EMISSION CHANGES

Emission Unit	Estimated Emissions (1)					
	Fluorides		Particulate Matter		Nitrogen Oxides	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Actual Emissions:						
MAP/DAP Plant	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	NA	NA	1.03	3.7	NA	NA
Proposed Emissions:						
MAP/DAP Plant	1.18	5.2	10.2	44.7	4.2	18.4
Loadout	NA	NA	1.03	4.5	NA	NA
Net Emissions		3.3		20.5		11.2
PSD Significant Level		3		15		40
PSD Review Required?		YES		YES		NO

NOTES:

(1) See emission calculations presented in Appendix A.

2.0 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a PSD review.

In accordance with EPA and state of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations that are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC). All new major sources and major modifications to existing sources are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 2-1) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 2-2).

2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 2-3). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas is usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements that ensure continued attainment status.

2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO₂) and particulate matter (PM/TSP) which would constitute significant deterioration. The size of

the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NO_x) and PSD increments for nitrogen dioxide (NO₂) concentrations. FDEP adopted the NO₂ increments in July 1990 (see Table 2-4 for PSD increments).

In the PSD regulations, as amended August 7, 1980, baseline concentration is defined as the ambient concentration level for a given pollutant which exists in the baseline area at the time of the applicable baseline date and includes the actual emissions representative of facilities in existence on the applicable baseline date, and the allowable emissions of major stationary facilities which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO₂ and PM (TSP) and February 8, 1988, for NO₂, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 62-212, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant.

If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include

applicable test methods or shall provide for determining compliance with the standard(s) by means that achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires an applicant to start with the most stringent control alternative, often Lowest Achievable Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimus levels (see Table 2-2).

2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation resulting from a project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed. The National Park Service also requires an Air Quality Related Values (AQRV) Analysis for a Class I area.

2.7 Good Engineering Practice Stack Height

In accordance with Chapter 62, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the greater of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H_g - GEP stack height,

H - Height of the structure or nearby structure, and

L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

2.8 Rule Applicability

The proposed project at USAC, as previously described herein, is classified as a major modification to a major source subject to both state and federal regulations as set forth in Rule 62-212, FAC.

The facility is located in an area classified as attainment for each of the regulated air pollutants in accordance with Rule 62-275, FAC.

The proposed project will result in significant increases in the emissions of fluorides and particulate matter, as defined in Rule 62-212, FAC; and, will therefore be subject to PSD preconstruction review requirements.

The PSD review will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

TABLE 2-1

MAJOR FACILITY CATEGORIES

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr 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 acid plants
Sulfuric acid plants
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
BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 2-2

REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

Pollutant	Significant Emission Rate tons/yr	De-Minimus Ambient Impacts ug/m ³
CO	100	575 (8-hour)
NOx	40	14 (NO ₂ , Annual)
SO ₂	40	13 (24-hour)
Ozone	40 (VOC)	-
PM	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H ₂ S)	10	0.2 (1-hour)
H ₂ SO ₄ mist	7	-
Fluorides	3	0.25 (24-hour)
MSW Combustor:		
Organics (Dioxins/Furans)	3.5E-6	
Metals (PM)	15	
Acid Gases (SO ₂ /HCl)	40	
MSW Landfill Gases (NMOC)	50	
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)

TABLE 2-3
 AMBIENT AIR QUALITY STANDARDS

<u>Pollutant</u>	<u>FDEP (State)</u>		<u>USEPA (National)</u>			
	<u>ug/m³</u>	<u>PPM</u>	<u>Primary</u>		<u>Secondary</u>	
	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>
SO ₂ , 3-hour	1,300	0.5	-	-	1300	0.5
24-hour	260	0.1	365	0.14	-	-
Annual	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
Annual	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
8-hour	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO ₂ , Annual	100	0.053	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 2-4
PSD INCREMENTS

Pollutant	<u>Allowable PSD Increments (State/National)</u>		
	Class I ug/m ³	Class II ug/m ³	Class III ug/m ³
PM10, Annual	4	17	34
24-hour	8	30	60
SO ₂ , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO ₂ , Annual	2.5	25	50

3.0 BEST AVAILABLE CONTROL TECHNOLOGY

As indicated in the rule applicability in the permit application, the proposed project is subject to PSD review requirements pursuant to Rule 62-212, FAC. A Best Available Control Technology (BACT) evaluation is presented below for fluoride emissions from the proposed project.

USAC proposes about a 20 percent increase in the production rate of the existing granular MAP/DAP Plant from 50 tph to 60 tph. The proposed maximum production rate of 60 tph MAP corresponds to 31.8 tph P₂O₅ input. No changes are proposed to the existing air pollution control equipment consisting of venturi scrubbers, as shown on the process flow diagrams. The available compliance test information indicates that the plant is in compliance with some of the most stringent emission limits imposed on granular MAP/DAP Plants.

3.1 Emission Standards for MAP/DAP Plants

Federal New Source Performance Standards (NSPS) for DAP plants, codified in 40 CFR 60, Subpart V, limit fluoride emissions to no more than 0.06 pounds per ton P₂O₅ input. For the purposes of the standard, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills.

More recently, additional federal standards were promulgated under 40 CFR 63 Subpart BB, National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizer Production Plants. The fluoride emission standard under these NESHAPs for existing MAP/DAP plants is identical to that under NSPS, at 0.06 lb/ton P₂O₅ feed. The fluoride emission standard for new plants is limited to 0.058 lb/ton P₂O₅ feed. However, these standards apply only to major sources of HAPs. As USAC is not a major source of HAPs, these standards do not apply to the proposed project.

3.2 Control Technologies

The most common pollution control equipment used to control fluorides from a MAP/DAP plant is a wet scrubber. There is some variation in the wet scrubbing system configurations from plant to plant, often depending on the preference of the plant designers and suppliers. Particulate matter emissions are most often controlled using venturi scrubbers.

The use of fresh water as scrubbing medium, in place of pond water, would result in increased capture of gaseous fluorides. However, this option is not possible given the current severe water restrictions implemented in the area by the Water Management District.

The existing USAC scrubbing system consists of venturi scrubbers. They are proven with the industry as they operate with low maintenance/repair costs, and increased on-line operation.

Packed scrubbers offer superior gaseous fluoride removal, however the industry experience indicates that the packing tends to plug frequently causing maintenance problems. The resulting plant down time cuts into the overall plant efficiency and productivity. Consequently, the use of packed scrubbers, in place of the existing venturi scrubbers, is not considered for this application. However, the use of packed scrubbers, in series with the existing venturi scrubbers can be evaluated.

The cost associated with the use of a cross-flow packed scrubber, based on a recent cost proposal for a similar application, is estimated below.

Total Capital Cost:	With Equipment Cost of \$190,000		
	Purchased Equip. Cost (1.18, EPA factor)	= \$	224,200
	Installation Cost (0.85 PEC, EPA factor)	= \$	190,570
	Indirect Cost (0.35 PEC, EPA factor)	= \$	78,470
	Total Capital Cost	= \$	493,240
Direct Annual Cost	Labor (0.5 hr/shift, EPA factor)	= \$	10,000
	Maintenance (1.0 hr/shift, EPA factor)	= \$	20,000
	Electricity (pump)	= \$	30,000
	Total DC	= \$	60,000
Indirect Annual Cost	(0.1715 TCI, EPA combined factor)	= \$	84,600
	(includes capital recovery at 15 year life, 10% int.)		
Total Annual Cost	(DC + IC)	= \$	144,600

Based on the above annual cost, the cost of fluoride control can be estimated with a conservative assumption that all fluorides from the venturi scrubber, of 5.2 tpy, are captured.

Annual Cost of fluoride control (\$144,600 / 5.2 tpy) = \$ 27,800/ton

This alternative is rejected as BACT based on the above control cost which far exceeds \$10,000 per ton fluoride controlled.

Another alternative would be the replacement of the existing tail-gas venturi scrubber with a packed scrubber. The corresponding annual costs are presented below.

Previous Total Capital Cost (without extra ducting)	= \$	493,240
Added Ducting and Production Loss Cost	= \$	500,000
Revised Total Capital Cost	= \$	993,240

Revised Indirect Cost (use EPA factor of 0.1715 x TCC)	= \$ 170,340
Direct costs (assumed to be the same as above)	= \$ 60,000
Annual Cost (DC+IC)	= \$ 230,000

To determine the cost of fluoride control, the total annual quantity of fluorides removed by the new scrubber needs to be calculated. As the fluoride loading to the scrubber has not been measured, it has to be estimated. In reality, it is expected that the first venturi controls most of the fluorides with the second venturi adding a polishing step with minimal fluorides removal. However, for the sake of this analysis it is assumed that the R/G venturi scrubber controls 60 percent of the fluorides and that the tail gas venturi scrubber removes an additional 20 percent of the fluorides (based on an expectation of an 80 percent overall control efficiency). This arrangement is practical as the R/G venturi would reduce the particulate matter going to a packed scrubber and avoid frequent plugging of the packed section. The tail-gas scrubber inlet loading can be back calculated as follows:

Projected annual fluoride emissions = 5.2 tpy

Potential additional F control by tail-gas (TG) scrubber being replaced = 20 %
(conservative assumption of 60% by R/G and 20% by TG)

Estimated fluorides to tail-gas scrubber can be estimated as follows:

$F = 5.2 \text{ tpy} + (5.2 / (1 - 0.8)) \times (0.8 \times 0.2 / (0.6 + 0.2))$ = 10.4 tpy

The total amount of fluorides that would be expected to be controlled by a new packed cross-flow scrubber can be estimated based on a projected control efficiency of 99%.

Fluorides controlled = 10.4 tpy x 0.99 = 10.3 tpy

The resulting cost of control can be estimated as follows:

Control Cost = \$230,000 / 10.3 tpy = \$ 22,300
(\$/ton fluorides removed)

The above cost also exceed the presumed BACT guideline cost of around \$10,000 per ton of fluorides removed and, therefore, this alternative is also rejected as BACT.

This BACT analysis also notes that the subject plant has a more restrictive fluorides emission limit than other recently permitted facilities that use packed scrubbers for fluorides control (refer to PSD-FL-246: Farmland; and PSD-FL-255: Cargill).

Treated water recirculation is rejected as BACT based on costs evaluated for a similar project for a lined pond and lime treatment that exceed even the costs associated with a packed scrubber. Further, the treated water containment integrity and storm contingencies can add considerable unnecessary environmental liability.

It should be noted that the historical fluoride emissions measurements indicate that the current scrubber configuration results in emissions of fluorides well below the NSPS. A summary of recent emissions measurements at USAC is included along with the emissions calculations in Appendix A. Furthermore, it is our understanding that the current fluoride emission rate, of 0.037 lb/ton P₂O₅ input, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

For particulate matter, the use of venturi scrubbers has consistently been considered BACT by FDEP for fertilizer plants. As USAC proposes to continue the use of the existing venturi scrubbers, no further discussion is presented herein. Furthermore, it is our understanding that the current particulate matter emission rate, of 0.17 lb/ton product, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

Particulate matter emissions from the storage and loadout system are controlled by a baghouse or by oil (dust suppressant). As the use of a baghouse or dust suppressant has consistently been considered BACT by FDEP for material handling operations, no further discussion is presented herein.

3.3 BACT Conclusion

Based on the above discussion, USAC proposes the continued use of the existing venturi scrubbers as BACT and will limit fluoride emissions from the MAP/DAP Plant to 0.037 lb/ton P₂O₅ input; limit particulate matter emissions to 0.17 lb/ton product and, limit visible emissions to 15 percent opacity. BACT for the particulate matter emissions from the storage and loadout system is reflected by an opacity limit of 5 percent.

4.0 AIR IMPACTS ANALYSIS

An ambient air standards analysis is required for fluorides and particulate matter as there are applicable particulate matter ambient air standards and applicable monitoring thresholds for fluorides.

4.1 Significant Impact Analysis

The fluoride and particulate matter emission rates used for air quality modeling purposes for Significant Impact Analysis (SIA) represent the proposed net increase in the emission rate associated with the proposed project. Table 4-1 contains modeling input parameters used in the ambient air quality impacts analysis.

The SIA was conducted using the Industrial Source Complex-Short Term air quality model, Version 00101 (ISC-ST3), in accordance with guidelines established by EPA and published in the document, Guideline for Air Quality Modeling. The meteorological data used with the model were for Tampa, Florida and represented the period 1987-1991.

The maximum allowable federally enforceable emissions from the MAP/DAP Plant and the product storage and loadout system were modeled in the SIA. The maximum allowable current emission rates were represented as a negative input while the proposed emission rates were represented as positive inputs to the model. Changes and updates to the stack characteristics were also included.

The SIA modeling included discrete receptors at the facility property boundary and additional receptors established by the polar grid system extending to 10 kilometers from the plant. The discrete receptors were placed along the property boundary at 100 meter intervals. Fourteen sets of receptor rings were placed at distances ranging from about 500 to 10,000 meters from the plant with receptors placed at 10 degree intervals from 10° to 360° on each receptor ring, with the exclusion of receptors within property boundary. The downwind receptor distances were selected in order to provide a higher concentration of receptors closer to the source where the maximum impacts were expected. Receptor locations are shown in Figure 4-1.

The results of the SIA modeling, summarized in Table 4-2, demonstrate that the maximum predicted air impact of the fluorides and particulate matter emissions from the proposed project are below the 24-hour de-minimus levels; below the significant levels for the 24-hour and annual periods for the Class II area; and, below the significant level for the Class I area. Based on the results of the SIA, additional modeling was not required for the proposed project.

FIGURE 4-1

MODELING RECEPTOR LOCATIONS

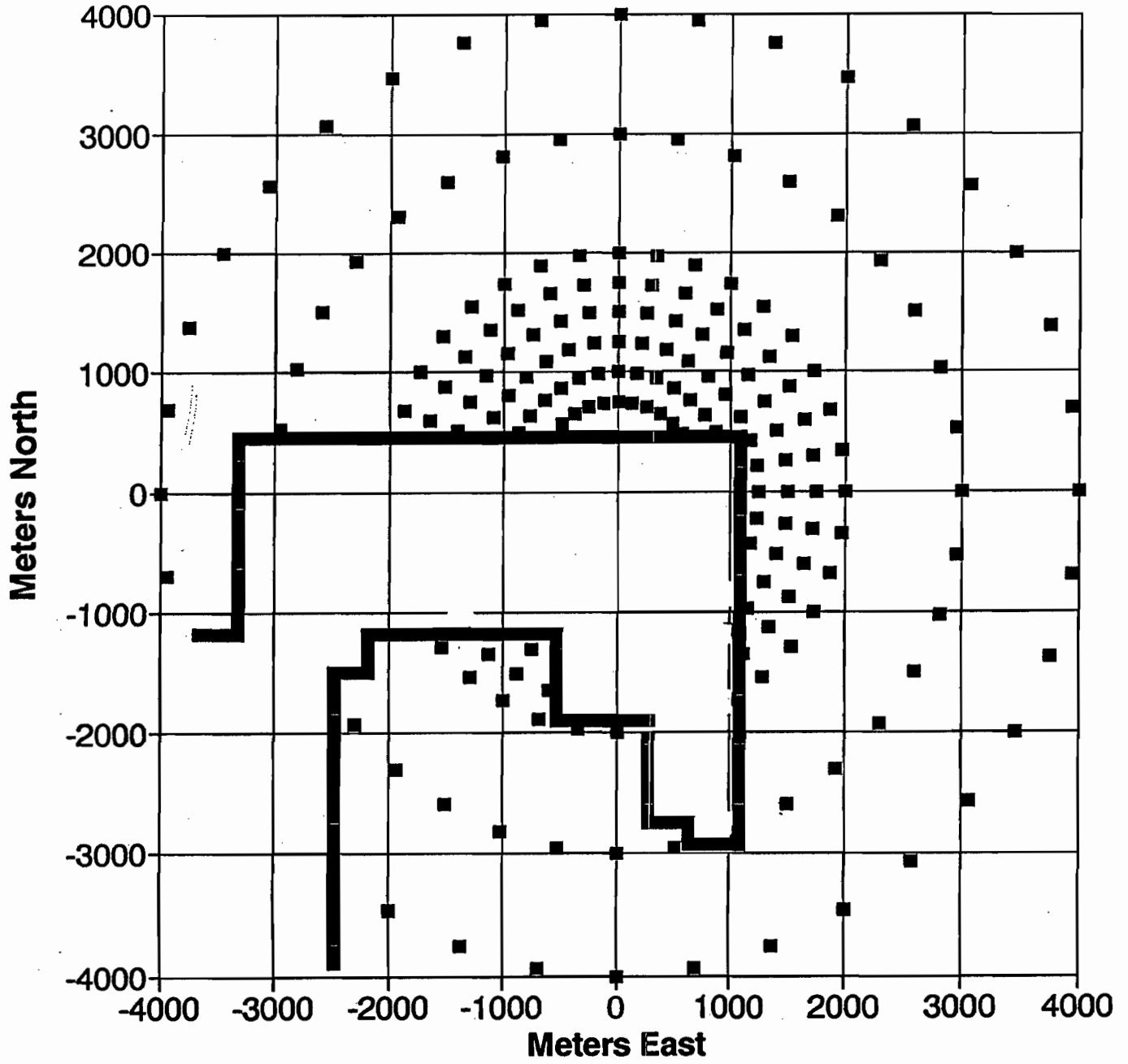


TABLE 4-1
 AIR QUALITY MODELING PARAMETERS
 MAP/DAP PLANT

<u>Emission Unit</u>	<u>Stack</u>		<u>Stack Gas</u>		<u>Emissions</u> (g/s)
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	
<u>Particulate Matter</u>					
Tower (1)	21.95	2.74	14.37	332	3.02
Tower (2)	41.30	2.05	15.81	338	3.02
Loadout (3)	15.24	0.43	14.40	300	0.54
Loadout (4)	15.24	0.37	26.90	300	0.54
<u>Fluorides</u>					
Tower (5)	41.30	2.05	15.81	338	0.123
Tower (6)	41.30	2.05	15.81	338	0.148

NOTES:

- (1) This worst-case conditions reflect plant in prilled product operation as modeled before.
- (2) The worst-case conditions reflect plant in prilled product operation based on stack parameters as proposed.
- (3) The worst-case conditions modeled reflect loadout operation as modeled before.
- (4) The worst-case conditions modeled reflect loadout operation based on stack parameters as proposed.
- (5) The worst-case conditions modeled reflect granular product operation as before.
- (6) The worst-case conditions modeled reflect granular product operation as proposed.
- (7) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2
SUMMARY OF SIGNIFICANT IMPACT ANALYSIS
MAP/DAP PLANT

MET. DATA	<u>CLASS I AREA IMPACTS (1)</u>		<u>CLASS II AREA IMPACTS (1)</u>		
	PM		F	PM	
	24-HR	ANNUAL	24-HR	24-HR	ANNUAL
1987	0	0	0.03	4.08	0
1988	0	0	0.03	3.39	0
1989	0	0	0.03	3.11	0
1990	0	0	0.03	3.50	0
1991	0	0	0.03	4.45	0
MAXIMUM	0	0	0.03	4.45	0
DI-MINIMUS (2)	NA	NA	0.25	10	NA
SIG. IMPACT (2)	0.3	0.2	NA	5	1

NOTE:

- (1) The impacts represent the highest-high impact.
- (2) As defined in Rule 62-212, FAC.
- (3) The impacts are based on the difference between the plant as modeled before and as proposed (see Table 4-1).

5.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

5.1 Impacts on Soils and Vegetation

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to "... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of fluorides and particulate matter expected in the vicinity of the proposed project are below the ambient air quality standards. In fact, the maximum predicted long term impacts based on the project as modeled are zero. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area.

USAC's Ft. Meade plant property and the surrounding areas are comprised of mining lands (phosphate), flatwoods, marshes, and sloughs. The soils of the area are primarily sandy and are typically low in both clay and silt content. These characteristics and the semi-tropic climatic factors of high temperature and rainfall are the natural factors that determine the terrestrial communities of the region.

The land in the vicinity of the plant supports various plant communities. Much of the natural vegetation on the site and the surrounding areas has been altered due to mining and industrial use; primarily the phosphate fertilizer industry. As a result of mining and industrial activity, there is very little undisturbed land in existence in the vicinity of the plant. As a result, no adverse impacts from the proposed project are expected on the soils and vegetation in the vicinity of the facility.

5.2 Growth Relate Impacts

The proposed project will require no increase in personnel to operate the facility. Also, an increase in traffic due is not expected, and any changes will likely have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project.

5.3 Visibility Impacts

The proposed project will result in an increase in air emissions and therefore has the potential for adverse impacts on visibility.

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. The emissions of particulate matter were input to the model. The VISCREEN - Level 1 modeling results, presented in Table 5-1, indicate that there will be no adverse visibility impacts from the proposed project.

5.4 Impacts on Air Quality Related Values for the Class I Area

The analysis addressed in this section addresses the review of the impact of increased emissions on air quality related values associated with the Chassahowitzka Wildlife Refuge, a Class I area located in excess of 100 kilometers northwest of the USAC Ft. Meade facility.

Given that the maximum predicted Class I area impacts based on the ISC3 modeling are zero, no adverse impact to the Class I area vegetation, soils, wildlife or visibility are expected.

A regional haze analysis was performed using the maximum predicted particulate matter impacts based on the NPS protocol, except using ISC3 results. The results of the regional haze analysis, presented in Table 5-2, indicate that no adverse visibility impacts are expected as a result of the proposed project.

TABLE 5-1

VISIBILITY SCREENING RESULTS

Source: Granular MAP/DAP Plant
 Class I Area: Chass.

Level-1 Screening Input Emissions for:

Particulates	3.56	G	/S
NOx (as NO2)	0.53	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

Default Particle Characteristics Assumed.

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	65.00	km
Source-Observer Distance:	110.00	km
Min. Source-Class I Distance:	110.00	km
Max. Source-Class I Distance:	130.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	110.0	84.	2.00	.123	.05	.002
SKY	140.	84.	110.0	84.	2.00	.022	.05	-.001
TERRAIN	10.	84.	110.0	84.	2.00	.058	.05	.001
TERRAIN	140.	84.	110.0	84.	2.00	.012	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	30.	83.4	139.	2.00	.151	.05	.002
SKY	140.	30.	83.4	139.	2.00	.026	.05	-.001
TERRAIN	10.	50.	96.1	119.	2.00	.074	.05	.001
TERRAIN	140.	50.	96.1	119.	2.00	.017	.05	.001

TABLE 5-2
REGIONAL HAZE ANALYSIS

Example Calculation

Background from the 20% Cleanest Days		
SO2 =	0.00329 ppm =	8.62 ug/m ³
SO4 = SO2 * 1.5 =	12.92	ug/m ³
(NH4)SO4 = 1.1875 * SO4 =	15.35	ug/m ³
NO2 =	0.0085 ppm =	16 ug/m ³
NO3 = 1.348 * NO2 =	21.55	
(NH4)2NO3 = 1.29 * NO3 =	27.80	ug/m ³
(NH4)SO4 + (NH4)2NO3 =	43.15	ug/m ³
PM10 =	22.5	22.5 ug/m ³
Assume 90% RH fRH =	5	
Background extinction =	b back	238.26 Mm ⁻¹

Source	Impact ug/m ³
NO2	0.0000
SO2	0.0000
H2SO4 =	0.00000
SO4 = SO2 * 1.5 =	0
(NH4)2SO4 = 1.375 * SO4 =	0.0000 ug/m ³
(SO2+H2SO4)*1.5*1.375 =	2.14 ug/m ³
NO3 = 1.348 * NO2 =	0.0000 ug/m ³
(NH4)NO3 = 1.29 * NO3 =	0.0000 ug/m ³
PM10 =	0.1 ug/m ³
Source extinction =	b source 0.100 Mm ⁻¹

Change in Deciview

Ddv = 10 * ln (b back + b source / b back) =	0.004 dv
--	----------

6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion. The stacks associated with the proposed project are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

7.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the production rate of the Granular MAP/DAP Plant, as described in this report, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

APPENDIX A - EMISSIONS CALCULATIONS

ACTUAL EMISSION RATES

As there is almost no operating history associated with the granular MAP plant, the actual emissions are projected using the 2001 initial compliance test for the MAP Plant, and based on estimates presented to FDEP on the loadout, as follows:

Unit	Hours Projected	<u>Fluorides</u>		<u>Particulate Matter</u>		<u>Nitrogen Oxides</u>	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
MAP Plant	7166	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	7166	NA	NA	1.03	3.7	NA	NA

Note: Tpy emissions are calculated as: lb/hr x hrs/yr / 2000 lbs/ton

ALLOWABLE EMISSION RATES

GMAP/DAP, F	= 31.8 tph P2O5 x 0.037 lb F/ton P2O5 x 8760 hrs/yr x ton/2000 lbs	= 1.18 lb/hr = 5.2 tpy
GMAP/DAP, PM	= 60 tph product x 0.17 lb F/ton product x 8760 hrs/yr x ton/2000 lbs	= 10.2 lb/hr = 44.7 tpy
GMAP/DAP, NOx	= 140 lb/MMCF x 0.03 MMCF/hr x 8760 hrs/yr x ton/2000 lbs	= 4.2 lb/hr = 18.4 tpy
Loadout, PM	= 0.02 gr/cf x 6000 cfm x lb/7000 gr x 60 min/hr x 8760 hrs/yr x ton/2000 lbs	= 1.03 lb/hr = 4.5 tpy

NET EMISSIONS INCREASES

F	= (5.2 - 1.86) tpy = 3.3 tpy (exceeds fluorides PSD significant level of 3 tpy)
PM	= (49.2 - 28.7) tpy = 20.5 tpy (exceeds PM10 PSD significant level of 15 tpy)
NOX	= (18.4 - 7.2) tpy = 11.2 tpy (below NOX PSD significant level of 40 tpy)

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions		
Permitted	Actual	
0.98	0.52	lbs of fluorides per hour;
0.037	0.021	lbs of fluorides per ton of equivalent P ₂ O ₅ feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average			
25.0	Feedrate (tons P ₂ O ₅ /hr)		
47.1	Production rate (tons GMAP/hr)		
Scrubber	Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NEB Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

THIS DISK CONTAIN PARTICULATE MATTER (PM) AND FLUORINE MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS AND BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

C2-ASI	EXE	135,810	03-29-01	PM CLASS 2 AREA SIA ANALYSIS
C1-ASI	EXE	41,433	03-29-01	PM CLASS 1 AREA SIA ANALYSIS
FLUORINE	EXE	110,802	03-29-01	FLUORINE DEMINIMUS ANALYSIS
BPIP-01	EXE	20,062	03-29-01	BUILDING DOWNWASH CALCULATIONS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE PM ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:
C2-SIA AND PRESS ENTER.

THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES IN ASCII FORMAT DESCRIBED AS FOLLOWS:

CLASS 2 AREA IMPACT ANALYSIS:

C2ASI-87	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1987
C2ASI-88	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1988
C2ASI-89	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1989
C2ASI-90	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1990
C2ASI-91	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1991

CLASS 1 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES:

C1ASI-87	OUT	40,712	03-28-01	IMPACT ANALYSIS FOR 1987
C1ASI-88	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1988
C1ASI-89	OUT	40,593	03-28-01	IMPACT ANALYSIS FOR 1989
C1ASI-90	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1990
C1ASI-91	OUT	40,608	03-28-01	IMPACT ANALYSIS FOR 1991

FLUORINE IMPACT ANALYSIS:

FL87	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1987
FL88	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1988
FL89	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1989
FL90	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1990
FL91	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-01.EXE. BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THE FOLLOWING BPIP FILES ARE PROVIDED:

USAC4SIT	INP	2,078	03-27-01	INPUT FOR SRC SOURCES
USAC4SIT	OUT	3,898	03-27-01	OUTPUT FOR SRC SOURCES
USAC4SIT	SUM	49,836	03-27-01	SUMMARY FOR SCR SOURCES

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CALL ME.

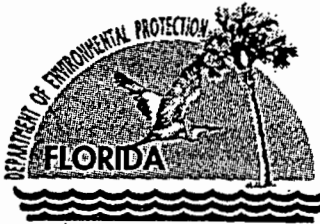
MARCH 30, 2001

MARK KOLETZKE, P.E.

KOGLER AND ASSOCIATES

(352) 377-5822

APPENDIX B - CURRENT TITLE V PERMIT CONDITIONS



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Permittee:
U.S. Agri-Chemicals Corporation

FINAL Permit No.: 1050051-003-AV
Facility ID No.: 1050051
SIC Nos.: 28, 2874
Project: Revised Title V Air Operation Permit

Note: The previous Title V Operation Permit is replaced by this version (effective date 5/15/00, DEP Project No.: 006).

This permit is for the operation of the Ft. Meade Chemical Plant facility. This facility is located at 3225 State Road 630 West, Ft. Meade, Polk County; UTM Coordinates: Zone 17, 416.2 km East and 3068.7 km North; Latitude: 27° 44' 40" North and Longitude: 81° 51' 08" West.


STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX TV-3, TITLE V CONDITIONS (version dated 4/30/99)
APPENDIX SS-1, STACK SAMPLING FACILITIES(version dated 10/7/96)
TABLE 297.310-1, CALIBRATION SCHEDULE(version dated 10/7/96)
FIGURE 1 - SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSION
AND MONITORING SYSTEM PERFORMANCE REPORT(version dated 7/96)

Effective Date of Original Issuance: 09/11/98
Effective Date of Revision: 5/15/00
Renewal Application Due Date: 03/13/03
Expiration Date: 09/09/03

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION


W.C. Thomas, P.E.
District Air Program Administrator
Southwest District

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of two phosphoric acid plants -- A and B Trains, one phosphoric acid plant tank farm, one MAP Plant, one MAP Loadout System, two sulfuric acid plants, one auxiliary boiler, one molten sulfur storage and handling system, and one lime silo.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 13, 1996, this facility is not a major source of hazardous air pollutants (HAPs). Based on the proposed rule "National Emission Standards for Hazardous Air Pollutants Phosphoric Acid Manufacturing and Phosphate Fertilizers Production" (reference Federal Register 12/27/96), this facility may be considered a major source of HAPS, and permitting considerations will be deferred until the promulgation of this MACT rule.

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

<u>E.U.</u>	
<u>ID No.</u>	<u>Brief Description</u>
-005	Phosphoric Acid Plant A-Train
-006	Auxiliary Boiler
-016	Sulfuric Acid Plant #1
-017	Sulfuric Acid Plant #2
-020	Phosphoric Acid Plant B-Train
-021	Phosphoric Acid Plant Tank Farm
-028	Molten Sulfur System -- Sulfur Tank
-029	Molten Sulfur System -- Sulfur Pit
-030	Molten Sulfur System -- Sulfur Rail Unloading
-031	Molten Sulfur System -- Sulfur Truck Unloading
-032	Prilled MAP Plant (includes MAP Storage & Loadout)
-033	Lime Silo
-035	Phosphogypsum Stack

Unregulated Emissions Units and/or Activities

-036 Facility-Wide Fugitive Emissions

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History / ID Number Transfers

These documents are on file with permitting authority:

Initial Title V Permit Application received June 13, 1996

Revised Title V Permit Application received December 17, 1998

Additional Information Request dated February 17, 1998

Additional Information Response received May 15, 1998

Subsection E. This section addresses the following emissions unit(s).

E.U.

ID No. Brief Description

-032 Prilled MAP Plant (includes MAP Storage & Loadout)

The 60 TPH prilled MAP plant is based on the Swift prill tower process. In this process, diluted wet process phosphoric acid is reacted with ammonia vapor in a pipe reactor and sprayed into the top of the tower to produce MAP. Ambient air entering the bottom of the tower removes moisture in the MAP as they fall by gravity to the bottom of the tower. The gas in the tower is evacuated to a venturi scrubber. Product MAP is cooled in a cooler. The gas in the cooler is evacuated to a smaller venturi scrubber. The gas and liquid from both venturi scrubbers enter a cyclonic separator prior to being discharged to the atmosphere via a stack. A portion of the scrubber liquid is used to adjust the concentration of phosphoric acid in the day tank. Fresh water and/or cooling pond water is used to maintain scrubber water balance. The cooler discharges to a transfer system which carry the MAP to a storage building. From the storage building, MAP is loaded into railcars by a loadout system. Dust from the loadout system is controlled by a baghouse.

{Permitting note(s): These emissions units are regulated under Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards and Rule 62-296.403, F.A.C., Phosphate Processing.}

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

E.1. Capacity.

- a. The production rate of the Prilled MAP Plant shall not exceed 40.9 tons of MAP Product per hour, except as allowed by Condition E.1.b below.
- b. In order to regain the originally intended plant capacity of 60 tons of MAP product per hour, the permittee may conduct a performance test at a rate higher than 40.9 tons of MAP product per hour and up to 60 tons of MAP product per hour by notifying the Department at least 15 days in advance of the special test. The plant may be operated at the higher rate for only seven consecutive days and then must resume operation at no higher than 40.9 tons of MAP product per hour. Upon written approval of the performance test by the Department, which shall include a determination that the plant will be able to meet the limits of conditions E.2, E.3 and E.4, the plant will be authorized to operate at a rate up to and including the rate experienced during the performance test. In the process of regaining the originally intended capacity of 60 tons of MAP product per hour, the permittee shall not be required to undergo another PSD review and BACT determination for PM/PM10 under Rule 62-212.400, F.A.C.

or another BACT review for fluorides under Rule 62-296.403, F.A.C., unless the permittee submits an application to increase the plant's maximum operating capacity above 60 tons of MAP product per hour.

[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE), Air Construction permit AC53-260190/PSD-FL-222]

Emission Limitations and Standards

E.2. Particulate matter(PM)/PM₁₀ emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.4 pounds per ton of MAP product;
- b. 16.4 pounds per hour;
- c. 71.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 40.9 tons per hour of MAP product.}

E.3. Fluoride emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.019 pounds per ton of P₂O₅ input;
- b. 0.39 pounds per hour;
- c. 1.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 20.5 tons per hour P₂O₅ input.}

E.4. Visible emissions from the Prilled MAP Plant scrubber stack shall not exceed 15% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

E.5. Visible emissions from the Prilled MAP Plant Loadout baghouse shall not exceed 5% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

Test Methods and Procedures

E.6. The Prilled MAP Plant scrubber stack shall be tested for the following pollutants annually, on or during the 60 day period prior to December 30.

- a. total fluorides;
- b. PM/PM₁₀;
- c. visible emissions.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.7. The Prilled MAP Plant Loadout baghouse shall be tested for visible emissions annually on or during the 60 day period prior to December 30.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.8. Compliance with the emission limitations of Conditions E.6 and E.7 shall be determined using EPA Methods 1, 2, 4, 5, 9 and 13A or 13B contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-297, F.A.C. The actual production rate shall be specified in each test report. Failure to include the actual production rate in the report may invalidate the test.

[Rule 62-297, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.9. The Department's Bureau of Air Regulation Office in Tallahassee and the Southwest District Office shall be notified in writing at least 15 days prior to any emission test.

[Rule 62-297.310, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.10. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

E.11. The Prilled MAP Plant shall be subject to the following:

- a. Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hour in any 24 hour period unless specifically authorized by the Department for longer duration.
- b. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- c. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- d. In case of excess emissions resulting from malfunctions, each source shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

Monitoring of Operations

E.12. In order to provide reasonable assurance, when the MAP Plant and MAP Loadout System are operating, that the pollution control system is operating properly, the permittee shall comply with Facility-wide Condition No. 9.

[Rule 62-4.070(3), F.A.C.]

E.13. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the scrubber operating parameters. The record log shall contain, at a minimum:

- a. the volumetric liquid flow rate (gallons per minute),
- b. the scrubber pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day that the MAP Plant operates.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

E.14. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the baghouse operating parameters. The record log shall contain, at a minimum:

- b. the pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day of operation of the MAP Loadout System.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

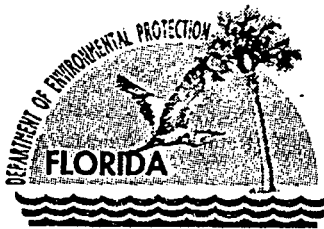
[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

Recordkeeping and Reporting Requirements

E.15. In order to comply with Condition E.1, the permittee shall maintain hourly records of the MAP production rate.

[Rule 62-213.440(1), F.A.C.]

APPENDIX C - CURRENT CONSTRUCTION PERMIT CONDITIONS



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

PERMITTEE:

U.S. Agri-Chemicals Corp.
3225 State Road 630 West
Ft. Meade, FL 33841

Permit No.: 1050051-008-AC
Effective Date: 09/28/1999
Expiration Date: 6/1/02
Project: Granular MAP/DAP Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-204 through 297, and Chapter 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

This permit is for the modification of the existing Prilled monoammonium phosphate (MAP) Plant to allow the production of up to 50 tons per hour (TPH) of granular MAP and/or diammonium phosphate (MAP/DAP) fertilizer. A new Granular MAP/DAP fertilizer plant will be constructed which shares some process equipment and air pollution control equipment with the existing Prilled MAP Plant. The plants will not be operated concurrently. When operating as the Prilled MAP Plant, the facility shall comply with the conditions contained Permit No. PSD-222-FL. When operating as the Granular MAP/DAP Plant, the facility shall comply with the conditions contained in this permit. Additionally, granular fertilizer from this plant and the Bartow facility may be stored in the existing storage building and loaded into railcars or trucks by the existing loadout system.

The new granulation equipment emission sources include the following: reactor, granulator, natural gas fired dryer, product screens, storage bin, bucket elevators, conveyors, and grinding mills. New air pollution control equipment includes a dryer high efficiency cyclone and a cooler high efficiency cyclone. The following existing air pollution control equipment, used at the Prilled MAP Plant, are also used to control emissions from the Granular MAP/DAP Plant: Tower Venturi, Cooler Venturi, and the cyclonic separator. The Granular MAP/DAP Plant process emission sources and associated air pollution control equipment are listed on the next page.

Granular MAP and DAP are made by reacting anhydrous ammonia and phosphoric acid in a covered reaction tank with the further addition of ammonia and acid in a granulator. The granulated product is then dried in a rotary drier. The dried product is sized by screening, grinding of oversized and recycling of undersized. The properly sized product is conveyed to the storage building for eventual loadout.

Emissions from the reactor and granulator are directed to a venturi/cyclonic ammonia absorber (R-G Ammonia Absorber) to recover ammonia and then to the existing Tower Venturi. The R-G Ammonia Absorber also controls particulate matter emissions. Emissions from the rotary dryer and material handling equipment are controlled by the new dryer cyclone and then the Tower

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Venturi. Emissions from the cooler are controlled by the new Cooler Cyclone and the Cooler Venturi. The Tower Venturi and Cooler Venturi are ducted to the cyclonic separator. The cyclonic separator contains a chevron-type mist eliminator to further reduce entrained scrubber liquors prior to exhaust to the atmosphere.

Granular MAP/DAP Emission Sources & Associated Control Equipment

Process Emission Source/Identifier*	Control Equipment
MAP/DAP Reactor	Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
MAP/DAP Granulator	
Dryer	Dryer Cyclone, Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Screen Feed Elevator	
Product Screen A	
Product Screen B	
Product Bin	
Oversize Mill A	
Oversize Mill B	
Product Feeder	
Recycle Conveyor	
Recycle Elevator	
Product Transfer Conveyor	
Fines Reclaim Conveyor	covered conveyor
Fines Reclaim Hopper	located inside storage building
Cooler (<i>existing</i>)	Cooler Cyclone, Cooler Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Product Elevator (<i>existing</i>)	enclosed
Storage Transfer Conveyor (<i>existing</i>)	covered conveyor
Notes:	
1. Emissions from the reactor and granulator are ducted to the R-G Ammonia Absorber. Its primary purpose is to recover ammonia, so it is not considered control equipment. However, it controls PM/PM ₁₀ emissions and could be a source of fluoride emissions.	
2. The Tower Venturi is labeled "large venturi" in the June 22, 1999 process flow diagram.	
3. The Cooler Venturi is labeled "small venturi" in the June 22, 1999 process flow diagram.	
4. All equipment is new unless otherwise noted.	

*from process flow diagram received June 22, 1999

Rule Applicability Notes:

- The granular DAP Method of Operation is subject to 40 CFR 60 Subpart V, *Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants* and Rule 62-296.403(f), *Phosphate Processing*.
- The granular MAP Method of Operation is subject to Rule 62-296.403(i), F.A.C., *Phosphate Processing*. This rule requires Best Available Control Technology (BACT) to control fluoride emissions during granular MAP production.

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- The facility has requested that this project be permitted as a non-PSD source. Therefore, this permit contains limitations to ensure that this modification does not exceed PSD significant increase levels.

Location: Ft. Meade Chemical Plant, State Road 630, 2 miles west of Ft. Meade, Polk County
UTM: 17-416.2 km East 3068.7 km North
Latitude: 27° 44' 40" North and **Longitude:** 81° 51' 08" West.
Facility ID No.: 1050051

Referenced Attachments

Best Available Control Technology (BACT) Determination dated September 10, 1999
Alternate Procedures and Requirements ASP No. 95-H-01

Permit History: No previous permits for the Granular MAP/DAP Plant. The Prilled MAP Plant is permitted under Permit No. PSD-222-FL.

The following conditions apply to the emissions unit listed below:

EU No.	EU Description
038	Granular MAP/DAP Plant
Notes: EU = Emissions Unit	
Please reference Permit No. and Emission Unit No. in all correspondence, test report submittals, etc.	

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions and BACT determination dated September 10, 1999 [Rule 62-4.160, F.A.C.]
2. All applicable rules and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations.
[Rule 62-210.300, F.A.C.]
3. Unless otherwise indicated, the construction of the Granular MAP/DAP Plant shall be in accordance with the capacities and specifications in the application or in updated submittals.
[Rule 62-210.300, F.A.C.]
4. Pursuant to Rule 62-204.800, F.A.C., the permittee is subject to 40 CFR 60 Subpart V and the general provisions of 40 CFR 60 Subpart A, where applicable.

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Operation Limitations

5. The dryer shall be fired with natural gas only.
[Rules 62-4.160(2), F.A.C. and 62-213.440(1), F.A.C.]

6. The Granular MAP/DAP Plant is allowed to operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

7. The P₂O₅ process input rate shall not exceed 26.5 TPH (daily average basis) and 158,920 tons per consecutive 12-month period.
[Rule 62-210.200(PTE), F.A.C.]

8. The production rate of granular MAP/DAP shall not exceed 50 TPH (daily average basis) and 300,000 tons per consecutive 12-month period for the total of both products. If any prilled MAP is produced during the same 12-month period, the above annual limitation is presented by the following equation:

$$G = 300,000 - P/1.9$$

where:

G = granular MAP/DAP production limit, tons per consecutive 12-month period

P = production of prilled MAP, tons per consecutive 12-month period

[Rule 62-210.200(PTE), F.A.C.]

Permitting Note: The production of prilled MAP is currently limited to 358,284 tons per consecutive 12-month period (i.e., 40.9 TPH x 8760 hrs/yr) in Permit No. PSD-FL-222. If the prilled MAP production limit is increased, the above condition must be modified to ensure that the potential fluoride emissions from the production of prilled MAP and granular MAP/DAP do not exceed 2.94 tons per consecutive 12-month period.

9. The permittee shall not allow any person to circumvent any pollution control device nor allow the emissions of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

10. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any emissions unit whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling without taking reasonable precautions to prevent such emissions.

[Rule 62-296.320(4)(c)1, F.A.C.]

11. Reasonable precautions may include, but shall not be limited to the following:

- (a) Paving and maintenance of roads, parking areas and yards.

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- (b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- (c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stockpiles and similar emissions units.
- (d) Removal of particulate matter from roads and other paved areas under the control of the permittee of the emissions unit to prevent reentrainment, and from buildings or work areas to prevent particulate matter from becoming airborne.
- (e) Landscaping or planting of vegetation.
- (f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- (g) Confining abrasive blasting where possible.
- (h) Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c)3, F.A.C.]

12. The following work practices (reasonable precautions) shall be followed:

- (a) The site yard, stockpiles, roadways, parking areas under control of the permittee shall be maintained to control emissions of unconfined particulate matter.
- (b) Apply water when necessary to control emissions of unconfined particulate matter.
- (c) Maintaining covers/enclosures for the Fines Reclaim Conveyor, Product Elevator, and Storage Transfer Conveyor.

[Rule 62-296.320(4)(c)2, F.A.C., response letter dated June 22, 1999]

13. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320, F.A.C.]

Emission Limitations

14. Total fluoride emissions from the Granular MAP/DAP Plant shall not exceed 0.98 lb/hr, 2.94 tons per consecutive 12-month period, and 0.037 lb F/ton of P₂O₅ input.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: This limitation is more stringent than that contained in 40 CFR, Subpart V.

15. Total fluoride emissions from the Granular MAP/DAP Plant and the Prilled MAP Plant combined shall not exceed 2.94 tons per consecutive 12-month period.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: Permit No. PSD-FL-222 limits annual total fluoride emissions to 1.7 tons from the Prilled MAP Plant.

16. PM/PM₁₀ emissions from the Granular MAP/DAP Plant shall not exceed 8.38 lb/hr, 25.1 tons per consecutive 12-month period, and 0.168 lb PM/ton of product.

[Rules 62-210.200 (PTE) & 62-212.400, F.A.C.]

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17. Visible emissions from the cyclonic separator stack shall not exceed 15% opacity.
[Requested in permit application dated 5/17/99]

Excess Emissions

18. The Granular MAP/DAP Plant shall be subject to the following:

- (a) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
- (b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- (c) Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- (d) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- (e) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[40 CFR 60 Subpart A, Rule 62-210.700, F.A.C.]

Monitoring of Operations

19. The permittee shall install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ± 5 percent over its operating range.
[40 CFR 60.223(a); Rule 62-204.800, F.A.C.]

20. The permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate (TPH) of phosphorus-bearing feed using a flow monitoring device meeting the requirements of Specific Condition No. 19 and then by proceeding according to the following procedure:

The equivalent P_2O_5 feed rate (P) shall be computed for each operating day using the equation:

$$P = (M_p) \times (R_p)$$

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where: M_p = total mass flow rate of phosphorus-bearing feed (TPH)
 R_p = P_2O_5 content, decimal fraction

The monitoring device required in Specific Condition No. 19 shall be used to determine total mass flow rate of the phosphorus-bearing feed. An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P_2O_5 content of the feed.

[40 CFR 60.223(b); Rules 62-204.800 & 62-4.070(3), F.A.C.]

21. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure and permanently record the pressure drop separately across the Tower Venturi and Cooler Venturi scrubbers. The monitoring devices shall have an accuracy of ± 5 percent over its operating range.

[40 CFR 60.223(c); Rule 62-204.800, F.A.C.]

22. The permittee shall monitor and record the pressure drop of the R-G Ammonia Absorber at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

23. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure the liquid flowrate for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi. The flowrates shall be recorded at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

24. The permittee shall determine and record the scrubbing medium nitrogen to phosphorus (N:P) ratio for each of the following, via grab or composite sample, at least once per operating day: R-G Ammonia Absorber and final scrubbing system (i.e., Tower Venturi, Cooler Venturi, and cyclonic separator).

[Rule 62-213.440(1)(b), F.A.C.]

25. Recordkeeping for Specific Condition Nos. 22, 23, and 24 shall include the date and time of the measurements and the name of the person responsible for recording the measurements. This does not apply to continuous recording devices.

[Rule 62-213.440(1)(b), F.A.C.]

26. In order to provide reasonable assurance that the Granular MAP/DAP Plant air pollution control equipment is functioning properly during plant operation, the following set of scrubber operating parameters shall be maintained at a minimum of 90% of the values measured and recorded during any single prior satisfactory compliance tests conducted at a minimum of 90% of the maximum allowed operation rate: liquid flowrate and pressure drop for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi and N:P ratio for the R-G Ammonia Scrubber and final scrubber system. Satisfactory compliance tests conducted below 90% of the maximum allowed operating rate will establish a set of new minimum scrubber parameter values for that lower operating rate (this does not exclude the use of parameter values previously established for higher operating rates).

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A value outside of the acceptable scrubber operating parameter ranges does not necessarily constitute a violation, but rather establishes a requirement for an additional compliance test or tests as specified below:

Within 30 days of the operation of a pollution control device lower than 90% of the minimum acceptable numerical control parameter determined during satisfactory compliance tests as detailed above, the permittee shall conduct a compliance test for fluoride and PM/PM₁₀ (except in the case of the N:P ratio, for which only a fluoride test is required) with the pollution control device operating at no higher than 110% of the lower value at which it operated, in order to demonstrate compliance. Prior notification shall be given to the Air Compliance Section of the Department's Southwest District (DEP-SWD),

The test result(s) shall be submitted to the Air Compliance Section of the DEP-SWD within 45 days of testing. Acceptance of the test(s) by the Department will establish whether the operation of the pollution control device, at the observed parameter, was not a violation of this permit. Furthermore, the permittee may submit an application to amend this permit to reflect the lower control parameter.

[Rules 62-4.070(3) & 62-210.650, F.A.C.]

Compliance Testing Requirements

27. Initial Compliance Test (Granular MAP/DAP Plant) Within 60 days after achieving the maximum production rate at which the MAP/DAP Plant will be operated, but not later than 180 days after its initial startup, the permittee shall conduct initial compliance tests for fluorides, PM/PM₁₀, and visible emissions on the cyclonic separator stack.

[40 CFR 60.8(a) and Rule 62-297.310(7)(a)1, F.A.C.]

28. Subsequent Compliance Tests. The cyclonic separator stack shall be tested for fluorides and visible emissions each federal fiscal year after the initial compliance test, during the period May - October. In addition, in the year prior to the five-year anniversary of the initial PM/PM₁₀ compliance test, conduct a PM/PM₁₀ compliance test on the cyclonic separator stack.

[Rule 62-297.310(7)(a)3 & 4, F.A.C.]

29. Test Methods

(a) Fluoride emissions testing shall be conducted in accordance with EPA Method 13A or 13B or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. (see attached ASP No. 95-H-01). An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P₂O₅ content of the phosphate feed.

(b) PM/PM₁₀ emissions testing shall be conducted in accordance with EPA Method 5 or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. The sample volume for each run shall be at least 30 dscf.

(c) When both particulate matter and visible emissions testing are required, the tests shall be conducted concurrently.

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(d) Visible emissions observations shall be conducted in accordance with EPA Method 9 and shall be a minimum of 30 minutes.

(e) The minimum requirements for stationary point source emission test procedures shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 60 Appendix A.

[Rules 62-296.320(4)(a)3(i), 62-297.310(4)(a)2, 62-4.070(3) & 62-297.401, F.A.C. 40 CFR 60.224]

30. At least 30 days prior to the date on which the initial Granular MAP/DAP Plant compliance test (15 days prior for all other tests) is due to begin, the permittee shall provide written notification of the test to the Air Compliance Section of the Department's Southwest District (DEP-SWD). The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and telephone number of the person conducting the test.

[Rule 62-297.340(1)(i), F.A.C.]

31. Test Operation Rate. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity as defined below. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit (i.e., 50 TPH production rate and 26.5 TPH P₂O₅ input rate).

[Rule 62-297.310(2), F.A.C.]

32. Test Report. The permittee of an air pollution emissions unit, for which compliance tests are required, shall file a report with the Air Compliance Section of the DEP-SWD on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after each test is completed. The test report shall provide, at minimum, the information required in Rule 62-297.310(8), F.A.C. In addition the report shall provide the following information for each test run:

- MAP/DAP production rate (TPH)
- P₂O₅ input rate (TPH)
- Liquid flowrate (GPM) and pressure drop (inches H₂O) for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi
- Makeup liquid of the final scrubbing system
- N/P ratio for the R-G Ammonia Absorber and the final scrubbing system

[Rule 62-297.310(8), F.A.C.]

PERMITTEE:

U.S. Agri-Chemicals Corp.
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC ~
Project: Granular MAP/DAP Plant

33. Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

Reporting And Recordkeeping Requirements

34. The permittee shall furnish written notification to the Department as follows:

- (a) A notification of the date construction of the Granular MAP/DAP Plant is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
- (b) A notification of the anticipated date of initial startup of the Granular MAP/DAP Plant postmarked not more than 60 days nor less than 30 days prior to such date.
- (c) A notification of the actual date of initial startup of the Granular MAP/DAP Plant postmarked within 15 days after such date.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

35. Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

36. A recordkeeping log shall be established and maintained to document compliance with Condition Nos. 7, 8, and 20. The daily logs shall be updated and completed by the end of the operating day. The monthly logs shall be updated and completed by the 15th day of the following month. The logs shall include, at a minimum, the following:

daily (each operating day)

- (a) date
- (b) hours of operation
- (c) the calculated P₂O₅ feed rate (TPH, daily average basis)
- (d) the calculated MAP/DAP production rate (TPH, daily average basis)

monthly

- (e) month
- (f) monthly P₂O₅ input and production of granular MAP/DAP and prilled MAP (tons)
- (g) P₂O₅ input and production of granular MAP/DAP and prilled MAP for the most recent consecutive 12-month period (tons)
- (h) if prilled MAP was produced during the most recent consecutive 12-month period, calculate the reduced production limit for granular MAP/DAP in accordance with Specific Condition No. 8 (tons per consecutive 12-month period)

PERMITTEE:

U.S. Agri-Chemicals Corp.
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC -
Project: Granular MAP/DAP Plant

These records shall be retained on file at the facility for at least five years and shall be made available to the Department upon request.

[Rule 62-213.440(1)(b), F.A.C.; 40 CFR 60.223(b)]

37. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department 60 days before the expiration of the permit.

[Rule 62-4.090, F.A.C.]

38. The permittee shall submit an Annual Operating Report to the Department's Southwest District office by March 1 of the following year for the previous year's operation.

[Rule 62-210.370(3), F.A.C.]

PSD Applicability

39. Based on the limitations contained in this permit, this modification at an existing PSD major facility is not considered a significant modification subject to PSD review on the basis that the net emissions increases associated with the modification were determined to be not significant (ref. Table 2, Rule 62-212.400, F.A.C.). Should the permittee request relaxation of any emission or operational limitations in this permit that would affect the potential to emit of this facility, the Department will evaluate the applicability of the PSD requirements of Chapter 62-212, F.A.C. as if the modifications allowed by this permit had not yet taken place.

[Rule 62-212.400(2)(g), F.A.C.]

Title V Operation Permit

40. A request for an operation permit must be submitted to the Department at least 180 days prior to the expiration date of this construction permit. To properly request an operation permit, the permittee shall submit:

(a) A completed DEP Form 62-210.900(1), F.A.C., *Application for Air Permit - Title V Source*.

(b) A copy of the test report required in Specific Condition No. 32, unless previously submitted.

(c) A copy of the records required in Specific Condition No. 36 for the most recent month.

[Rules 62-4.070(3) & 62-210.300(2), F.A.C.]

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

W.C. Thomas, P.E.
FOR W.C. Thomas, P.E.
District Air Administrator
Southwest District

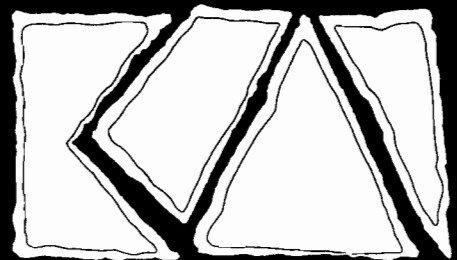
REPORT IN SUPPORT OF
PSD APPLICATION

FOR

INCREASE IN GRANULAR
MAP/DAP PRODUCTION

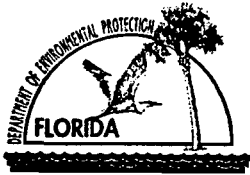
U.S. AGRICHEMICALS CORPORATION
FT. MEADE FACILITY

May, 2001



KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX 377-7158



Department of Environmental Protection

Division of Air Resources Management

RECEIVED

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

MAY 07 2001

See Instructions for Form No. 62-210.900(1)

BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: US Agri-Chemicals Corporation	
2. Site Name: Ft. Meade Chemical Plant	
3. Facility Identification Number: 1050051 [] Unknown	
4. Facility Location: Street Address or Other Locator: 3225 State Road 630 West City: Ft. Meade County: Polk Zip Code: 33841-9799	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Ronald L. Brunk, Manager, Env. Eng.		
2. Application Contact Mailing Address: Organization/Firm: Same as Above. Street Address: City: State: Zip Code:		
3. Application Contact Telephone Numbers: Telephone: (863)285-8121 Fax: (863)285-7088		

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	5-7-01
2. Permit Number:	1050051-015-AC
3. PSD Number (if applicable):	PSD-FL-321
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

Initial Title V air operation permit for an existing facility which is classified as a Title V source.

Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: _____

Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

Air construction permit to construct or modify one or more emissions units.

Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Phong T. Vo, General Manager of Engineering and Technical Services
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: US Agri-Chemicals Street Address: 3225 State Road 630 West City: Ft. Meade State: FL Zip Code: 33841-9799
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (863) 285-8121 Fax: (863) 285-7088
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i> Signature <u>Phong T. Vo</u> Date <u>5/4/01</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler and Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

(seal)

Date

5/2/01

* Attach any exception to certification statement.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

The proposed project includes an increase in the production rate of Granular MAP/DAP from 50 to 60 tph. The existing Prill/Granular MAP/DAP storage and loadout system will continue to be used without requiring any physical modifications. The proposed project is subject to a PSD review as the expected increases, in the air emissions of particulate matter and fluorides will be greater than the significant pursuant to Rule 62-212 of the Florida Administrative Code.

2. Projected or Actual Date of Commencement of Construction: **12/01/01**

3. Projected Date of Completion of Construction: **12/31/03**

Application Comment

The application includes only information related to the proposed modification, as suggested by FDEP.

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input checked="" type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

DEP TITLE V CORE LIST	
40 CFR 52, 55, 60, 61, 63, 68, 82	
FAC RULES 62-4, 204, 210, 212, 213, 214, 252, 256, 257, 281, 296, 297	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
SO2	A				
FL	B				
PM/PM10	B				
NOx	A				
SAM	A				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID: Report [] Not Applicable [] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: Report [] Not Applicable [] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: Report [] Not Applicable [] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [X] Attached, Document ID: Report [] Not Applicable [] Waiver Requested
5. Fugitive Emissions Identification: [X] Attached, Document ID: Report [] Not Applicable [] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: Report [] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input checked="" type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: <u>100000145871</u>) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Plant</p>			
<p>4. Emissions Unit Identification Number:</p> <p>ID: 032/038 [] No ID</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p>[]</p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) This plant is permitted to produce prilled or granular MAP and DAP.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

VENTURI SCRUBBER

2. Control Device or Method Code(s): **053**

Emissions Unit Details

1. Package Unit: **N/A**
Manufacturer:
Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:
Dwell Temperature: °F
Dwell Time: seconds
Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	30	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	31.8 tph P2O5 input	
4. Maximum Production Rate:	60 tph granular product	
5. Requested Maximum Operating Schedule:		
	24	hours/day
		7 days/week
	52	weeks/year
		8760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):	Process rate is based on a conversion factor of 0.53	

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): MAP/DAP granular production		
2. Source Classification Code (SCC): 3-01-030-02		3. SCC Units: TONS
4. Maximum Hourly Rate: 60	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Natural gas firing		
2. Source Classification Code (SCC): 3-90-006-89		3. SCC Units: MMCF
4. Maximum Hourly Rate: 0.03	5. Maximum Annual Rate: 263	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: FL	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.18 lb/hour 5.2 tons/year	4. Synthetically Limited? []
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.037 lb/ton P2O5 input Reference: Proposed BACT	7. Emissions Method Code: O
8. Calculation of Emissions (limit to 600 characters): FL = 0.037 lbs/ton P2O5 input x 31.8 tph P2O5 = 1.18 lb/hr X 8760 hours x ton/2000 lbs = 5.2 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions: N/A
3. Requested Allowable Emissions and Units: 0.037 lb/ton P2O5 input	4. Equivalent Allowable Emissions: 1.18 lb/hour 5.2 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 13A/13B	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 10.2 lb/hour		4. Synthetically Limited? <input type="checkbox"/>	
		44.7 tons/year	
5. Range of Estimated Fugitive Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/year			
6. Emission Factor: 0.17 lb/ton product Reference: Proposed BACT		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters): PM = 0.17 lbs/ton product x 60 tph = 10.2 lb/hr X 8760 hours x ton/2000 lbs = 44.7 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions: N/A	
3. Requested Allowable Emissions and Units: 0.17 lb/ton product		4. Equivalent Allowable Emissions: 10.2 lb/hour 44.7 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT			

Emissions Unit Information Section 1 of 2

Pollutant Detail Information Page 3 of 3

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:	
3. Potential Emissions: 4.2 lb/hour	18.4 tons/year	4. Synthetically Limited? []
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year		
6. Emission Factor: 140 lb/MMCF Reference: AP-42		7. Emissions Method Code: O
8. Calculation of Emissions (limit to 600 characters): NOX = 140 lbs/MMCF x 0.03 MMCF/hr = 4.2 lb/hr X 8760 hours x ton/2000 lbs = 18.4 tpy		
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from the plant.		

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: NA	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters): NA	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): No applicable standard.	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE15	2. Basis for Allowable Opacity: [X] Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 15 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters): BACT	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: FLOW	2. Pollutant(s): N/A
3. CMS Requirement:	[X] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: PRS	2. Pollutant(s): N/A
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): NSPS requirement, one for each scrubber.	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted
5. Compliance Test Report <input checked="" type="checkbox"/> Attached, Document ID: Report (summary) <input type="checkbox"/> Previously submitted, Date: _____ <input type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>MAP/DAP Storage and Loadout</p>			
<p>4. Emissions Unit Identification Number:</p> <p><input type="checkbox"/> No ID ID: 037 <input type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p> <p>N/A</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit?</p> <p><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters) No changes are proposed to the storage and loadout system.</p>			

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Baghouse; alternatively, a dust suppressant oil may be used.

2. Control Device or Method Code(s): **018/106**

Emissions Unit Details

1. Package Unit: **N/A**

Manufacturer:

Model Number:

2. Generator Nameplate Rating: **MW**

3. Incinerator Information:

Dwell Temperature: °F

Dwell Time: seconds

Incinerator Afterburner Temperature: °F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	N/A	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	150 TPH	
4. Maximum Production Rate:	N/A	
5. Requested Maximum Operating Schedule:		
	24	7
	hours/day	days/week
	52	8760
	weeks/year	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Loadout		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): N/A			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: N/A			
5. Discharge Type Code: V	6. Stack Height: 50 feet	7. Exit Diameter: 1.2 feet	
8. Exit Temperature: 80 F	9. Actual Volumetric Flow Rate: 6000 acfm	10. Water Vapor: N/A %	
11. Maximum Dry Standard Flow Rate: N/A dscfm		12. Nonstack Emission Point Height: N/A feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):			

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Material Loadout		
2. Source Classification Code (SCC): 3-01-030-03		3. SCC Units: TONS
4. Maximum Hourly Rate: 150	5. Maximum Annual Rate: 525,600	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 150 tons Maximum Annual Rate = 525,600 tons (maximum plant rate)		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018/106		EL

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.03 lb/hour 4.5 tons/year	4. Synthetically Limited? []
5. Range of Estimated Fugitive Emissions: [<input checked="" type="checkbox"/>] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.02 gr/cf Reference: BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): PM = 0.02 gr/cf x 6000 cfm x 60 min/hr x lb/7000 gr = 1.03 lb/hr X 8760 hours x ton/2000 lbs = 4.5 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): There is a potential for fugitive emissions from this plant.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions: N/A
3. Requested Allowable Emissions and Units: 1.03 lb/hr	4. Equivalent Allowable Emissions: 1.03 lb/hour 4.5 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): BACT - VE	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE5	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 5% Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: N/A	2. Pollutant(s): N/A
3. CMS Requirement:	[] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested Previously submitted.
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

REPORT IN SUPPORT OF PSD APPLICATION
FOR
INCREASE IN GRANULAR MAP/DAP PRODUCTION

U.S. AGRI-CHEMICALS CORPORATION
FT. MEADE FACILITY

REPORT PREPARED BY
KOOGLER & ASSOCIATES
4014 NW 13TH STREET
GAINESVILLE, FLORIDA
(352) 377-5822

MAY, 2001

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1.0 INTRODUCTION

US Agri-Chemicals (USAC) proposes to increase the production rate of the granular MAP/DAP Plant from 50 tons per hour (tph) to 60 tph at its existing chemical complex at Ft. Meade.

The facility manufactures sulfuric acid, phosphoric acid and ammoniated fertilizers. The existing MAP/DAP Plant can make prilled or granular product, depending on market demand. It is expected that only some pumps and piping may be changed, as necessary, to accomplish the production increase. No major equipment changes are proposed. The increase in granular MAP/DAP production rate will result in an increase in the annual throughput rate of the MAP/DAP storage and loadout system, currently permitted to handle 150 tph of product. Some phosphoric acid normally routed to the USAC Bartow facility will be supplied to the MAP/DAP plant, to accommodate market demand and operation conditions of the Bartow and Ft. Meade facilities. No other emission units will be affected by the proposed project. Plant maps and process flow diagrams are presented in Figures 1-1 to 1-5.

The proposed granular MAP/DAP Plant production increase is expected to result in a significant increase, as defined in Rule 62-212, Florida Administrative Code (FAC), in the emissions of fluorides and particulate matter (see Tables 1-1 and 1-2). This technical evaluation addresses rule applicability, Best Available Control Technology (BACT) and air impact analyses pursuant to Rule 62-212, FAC.

USAC proposes the continued use of the existing venturi scrubbers as BACT for the MAP/DAP Plant with a fluoride emissions limit of 0.037 lb/ton P₂O₅ input; and, a particulate matter emissions limit of 0.17 lb/ton product. These emission limits represent some of the most stringent limitations imposed on MAP/DAP Plants in the US.

FIGURE 1-2
AREA LOCATION MAP

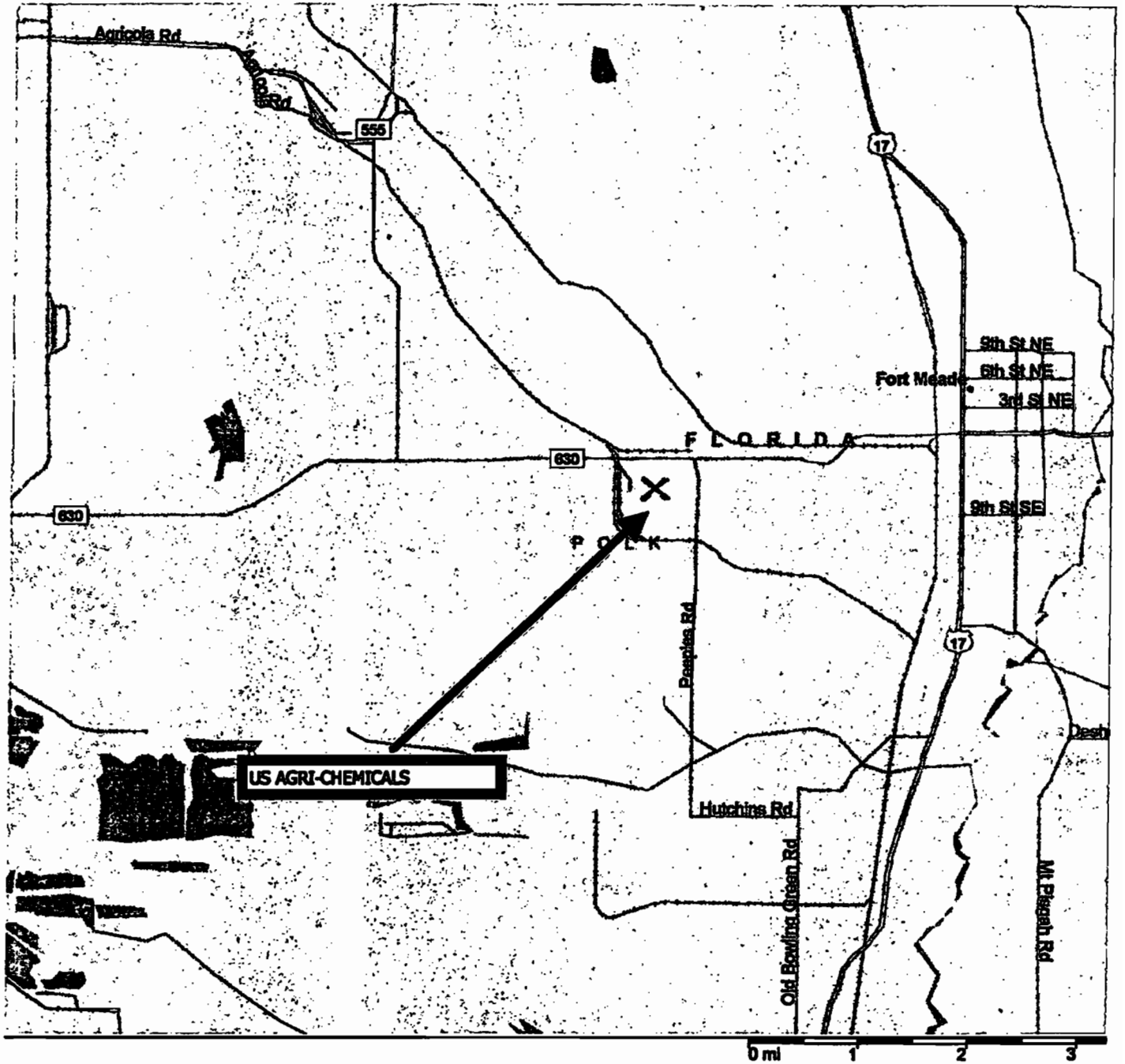


FIGURE 1-3

PLOT PLAN

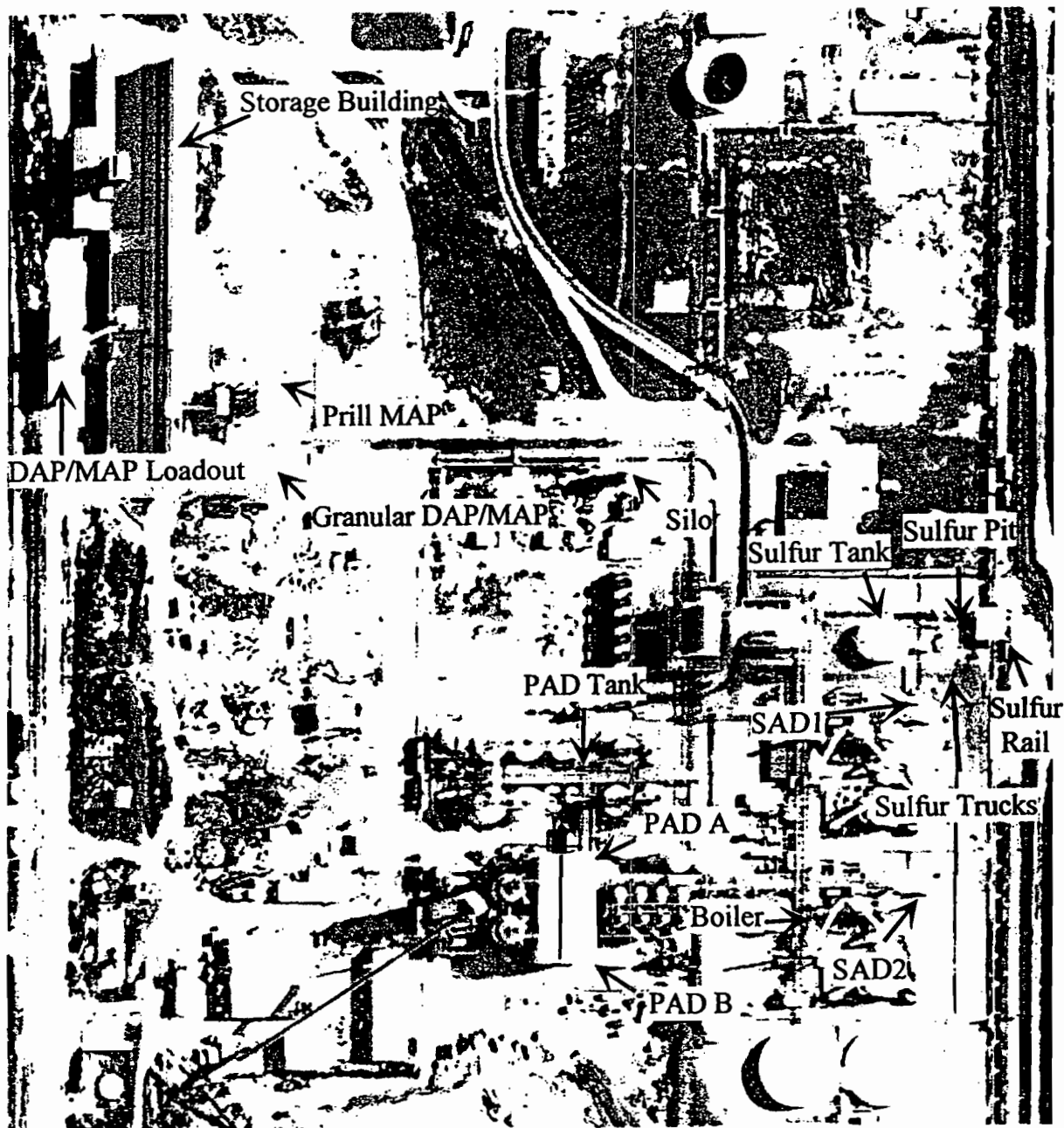
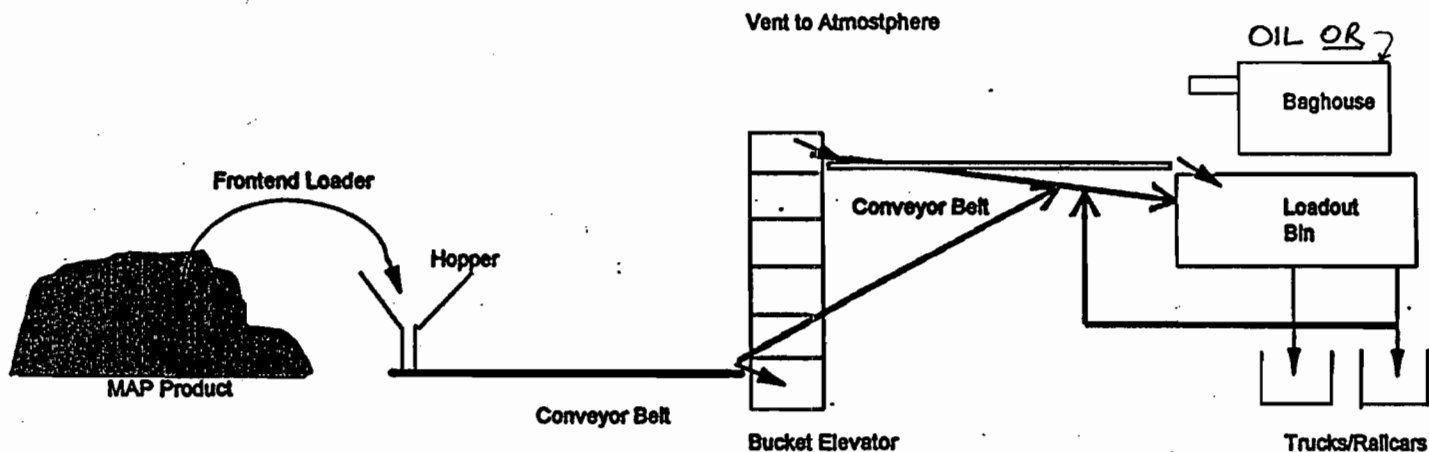


FIGURE 1-5

MAP/DAP LOADOUT PROCESS FLOW DIAGRAM



— Gas flow
—▶ Material flow

U.S. Agri-Chemicals Corporation
MAP Plant
FL. Meade, Florida
Loadout Process Flow Diagram
dwg: LOADFLOW

TABLE 1-1
SUMMARY OF EMISSION CHANGES

Emission Unit	Estimated Emissions (1)					
	Fluorides		Particulate Matter		Nitrogen Oxides	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Actual Emissions:						
MAP/DAP Plant	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	NA	NA	1.03	3.7	NA	NA
Proposed Emissions:						
MAP/DAP Plant	1.18	5.2	10.2	44.7	4.2	18.4
Loadout	NA	NA	1.03	4.5	NA	NA
Net Emissions		3.3		20.5		11.2
PSD Significant Level		3		15		40
PSD Review Required?		YES		YES		NO

NOTES:

(1) See emission calculations presented in Appendix A.

2.0 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a PSD review.

In accordance with EPA and state of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations that are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC). All new major sources and major modifications to existing sources are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 2-1) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 2-2).

2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 2-3). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas is usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements that ensure continued attainment status.

2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO₂) and particulate matter (PM/TSP) which would constitute significant deterioration. The size of

the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NO_x) and PSD increments for nitrogen dioxide (NO₂) concentrations. FDEP adopted the NO₂ increments in July 1990 (see Table 2-4 for PSD increments).

In the PSD regulations, as amended August 7, 1980, baseline concentration is defined as the ambient concentration level for a given pollutant which exists in the baseline area at the time of the applicable baseline date and includes the actual emissions representative of facilities in existence on the applicable baseline date, and the allowable emissions of major stationary facilities which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO₂ and PM (TSP) and February 8, 1988, for NO₂, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 62-212, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant.

If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include

applicable test methods or shall provide for determining compliance with the standard(s) by means that achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires an applicant to start with the most stringent control alternative, often Lowest Achievable Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimus levels (see Table 2-2).

2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation resulting from a project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed. The National Park Service also requires an Air Quality Related Values (AQRV) Analysis for a Class I area.

2.7 Good Engineering Practice Stack Height

In accordance with Chapter 62, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the greater of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H_g - GEP stack height,

H - Height of the structure or nearby structure, and

L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

2.8 Rule Applicability

The proposed project at USAC, as previously described herein, is classified as a major modification to a major source subject to both state and federal regulations as set forth in Rule 62-212, FAC.

The facility is located in an area classified as attainment for each of the regulated air pollutants in accordance with Rule 62-275, FAC.

The proposed project will result in significant increases in the emissions of fluorides and particulate matter, as defined in Rule 62-212, FAC; and, will therefore be subject to PSD preconstruction review requirements.

The PSD review will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

TABLE 2-1

MAJOR FACILITY CATEGORIES

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr 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 acid plants
Sulfuric acid plants
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
BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 2-2

REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

Pollutant	Significant Emission Rate tons/yr	De-Minimus Ambient Impacts ug/m ³
CO	100	575 (8-hour)
NOx	40	14 (NO ₂ , Annual)
SO ₂	40	13 (24-hour)
Ozone	40 (VOC)	-
PM	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H ₂ S)	10	0.2 (1-hour)
H ₂ SO ₄ mist	7	-
Fluorides	3	0.25 (24-hour)
MSW Combustor:		
Organics (Dioxins/Furans)	3.5E-6	
Metals (PM)	15	
Acid Gases (SO ₂ /HCl)	40	
MSW Landfill Gases (NMOC)	50	
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)

TABLE 2-3
 AMBIENT AIR QUALITY STANDARDS

<u>Pollutant</u>	<u>FDEP (State)</u>		<u>USEPA (National)</u>			
	<u>ug/m³</u>	<u>PPM</u>	<u>Primary</u>		<u>Secondary</u>	
	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>
SO ₂ , 3-hour	1,300	0.5	-	-	1300	0.5
24-hour	260	0.1	365	0.14	-	-
Annual	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
Annual	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
8-hour	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO ₂ , Annual	100	0.053	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 2-4
PSD INCREMENTS

Pollutant	<u>Allowable PSD Increments (State/National)</u>		
	Class I ug/m ³	Class II ug/m ³	Class III ug/m ³
PM10, Annual	4	17	34
24-hour	8	30	60
SO ₂ , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO ₂ , Annual	2.5	25	50

3.0 BEST AVAILABLE CONTROL TECHNOLOGY

As indicated in the rule applicability in the permit application, the proposed project is subject to PSD review requirements pursuant to Rule 62-212, FAC. A Best Available Control Technology (BACT) evaluation is presented below for fluoride emissions from the proposed project.

USAC proposes about a 20 percent increase in the production rate of the existing granular MAP/DAP Plant from 50 tph to 60 tph. The proposed maximum production rate of 60 tph MAP corresponds to 31.8 tph P₂O₅ input. No changes are proposed to the existing air pollution control equipment consisting of venturi scrubbers, as shown on the process flow diagrams. The available compliance test information indicates that the plant is in compliance with some of the most stringent emission limits imposed on granular MAP/DAP Plants.

3.1 Emission Standards for MAP/DAP Plants

Federal New Source Performance Standards (NSPS) for DAP plants, codified in 40 CFR 60, Subpart V, limit fluoride emissions to no more than 0.06 pounds per ton P₂O₅ input. For the purposes of the standard, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills.

More recently, additional federal standards were promulgated under 40 CFR 63 Subpart BB, National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizer Production Plants. The fluoride emission standard under these NESHAPs for existing MAP/DAP plants is identical to that under NSPS, at 0.06 lb/ton P₂O₅ feed. The fluoride emission standard for new plants is limited to 0.058 lb/ton P₂O₅ feed. However, these standards apply only to major sources of HAPs. As USAC is not a major source of HAPs, these standards do not apply to the proposed project.

3.2 Control Technologies

The most common pollution control equipment used to control fluorides from a MAP/DAP plant is a wet scrubber. There is some variation in the wet scrubbing system configurations from plant to plant, often depending on the preference of the plant designers and suppliers. Particulate matter emissions are most often controlled using venturi scrubbers.

The use of fresh water as scrubbing medium, in place of pond water, would result in increased capture of gaseous fluorides. However, this option is not possible given the current severe water restrictions implemented in the area by the Water Management District.

The existing USAC scrubbing system consists of venturi scrubbers. They are proven with the industry as they operate with low maintenance/repair costs, and increased on-line operation.

Packed scrubbers offer superior gaseous fluoride removal, however the industry experience indicates that the packing tends to plug frequently causing maintenance problems. The resulting plant down time cuts into the overall plant efficiency and productivity. Consequently, the use of packed scrubbers, in place of the existing venturi scrubbers, is not considered for this application. However, the use of packed scrubbers, in series with the existing venturi scrubbers can be evaluated.

The cost associated with the use of a cross-flow packed scrubber, based on a recent cost proposal for a similar application, is estimated below.

Total Capital Cost:	With Equipment Cost of \$190,000		
	Purchased Equip. Cost (1.18, EPA factor)	= \$	224,200
	Installation Cost (0.85 PEC, EPA factor)	= \$	190,570
	Indirect Cost (0.35 PEC, EPA factor)	= \$	78,470
	Total Capital Cost	= \$	493,240
Direct Annual Cost	Labor (0.5 hr/shift, EPA factor)	= \$	10,000
	Maintenance (1.0 hr/shift, EPA factor)	= \$	20,000
	Electricity (pump)	= \$	30,000
	Total DC	= \$	60,000
Indirect Annual Cost	(0.1715 TCI, EPA combined factor)	= \$	84,600
	(includes capital recovery at 15 year life, 10% int.)		
Total Annual Cost	(DC + IC)	= \$	144,600

Based on the above annual cost, the cost of fluoride control can be estimated with a conservative assumption that all fluorides from the venturi scrubber, of 5.2 tpy, are captured.

Annual Cost of fluoride control (\$144,600 / 5.2 tpy) = \$ 27,800/ton

This alternative is rejected as BACT based on the above control cost which far exceeds \$10,000 per ton fluoride controlled.

Another alternative would be the replacement of the existing tail-gas venturi scrubber with a packed scrubber. The corresponding annual costs are presented below.

Previous Total Capital Cost (without extra ducting)	= \$	493,240
Added Ducting and Production Loss Cost	= \$	500,000
Revised Total Capital Cost	= \$	993,240

Revised Indirect Cost (use EPA factor of 0.1715 x TCC)	= \$ 170,340
Direct costs (assumed to be the same as above)	= \$ 60,000
Annual Cost (DC+IC)	= \$ 230,000

To determine the cost of fluoride control, the total annual quantity of fluorides removed by the new scrubber needs to be calculated. As the fluoride loading to the scrubber has not been measured, it has to be estimated. In reality, it is expected that the first venturi controls most of the fluorides with the second venturi adding a polishing step with minimal fluorides removal. However, for the sake of this analysis it is assumed that the R/G venturi scrubber controls 60 percent of the fluorides and that the tail gas venturi scrubber removes an additional 20 percent of the fluorides (based on an expectation of an 80 percent overall control efficiency). This arrangement is practical as the R/G venturi would reduce the particulate matter going to a packed scrubber and avoid frequent plugging of the packed section. The tail-gas scrubber inlet loading can be back calculated as follows:

Projected annual fluoride emissions	= 5.2 tpy
Potential additional F control by tail-gas (TG) scrubber being replaced (conservative assumption of 60% by R/G and 20% by TG)	= 20 %

Estimated fluorides to tail-gas scrubber can be estimated as follows:

$$F = 5.2 \text{ tpy} + (5.2 / (1 - 0.8)) \times (0.8 \times 0.2 / (0.6 + 0.2)) = 10.4 \text{ tpy}$$

The total amount of fluorides that would be expected to be controlled by a new packed cross-flow scrubber can be estimated based on a projected control efficiency of 99%.

Fluorides controlled	= 10.4 tpy x 0.99	= 10.3 tpy
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The resulting cost of control can be estimated as follows:

Control Cost (\$/ton fluorides removed)	= \$230,000 / 10.3 tpy = \$ 22,300
--	------------------------------------

The above cost also exceed the presumed BACT guideline cost of around \$10,000 per ton of fluorides removed and, therefore, this alternative is also rejected as BACT.

This BACT analysis also notes that the subject plant has a more restrictive fluorides emission limit than other recently permitted facilities that use packed scrubbers for fluorides control (refer to PSD-FL-246: Farmland; and PSD-FL-255: Cargill).

Treated water recirculation is rejected as BACT based on costs evaluated for a similar project for a lined pond and lime treatment that exceed even the costs associated with a packed scrubber. Further, the treated water containment integrity and storm contingencies can add considerable unnecessary environmental liability.

It should be noted that the historical fluoride emissions measurements indicate that the current scrubber configuration results in emissions of fluorides well below the NSPS. A summary of recent emissions measurements at USAC is included along with the emissions calculations in Appendix A. Furthermore, it is our understanding that the current fluoride emission rate, of 0.037 lb/ton P₂O₅ input, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

For particulate matter, the use of venturi scrubbers has consistently been considered BACT by FDEP for fertilizer plants. As USAC proposes to continue the use of the existing venturi scrubbers, no further discussion is presented herein. Furthermore, it is our understanding that the current particulate matter emission rate, of 0.17 lb/ton product, is the most stringent limit imposed by FDEP on a MAP/DAP Plant.

Particulate matter emissions from the storage and loadout system are controlled by a baghouse or by oil (dust suppressant). As the use of a baghouse or dust suppressant has consistently been considered BACT by FDEP for material handling operations, no further discussion is presented herein.

3.3 BACT Conclusion

Based on the above discussion, USAC proposes the continued use of the existing venturi scrubbers as BACT and will limit fluoride emissions from the MAP/DAP Plant to 0.037 lb/ton P₂O₅ input; limit particulate matter emissions to 0.17 lb/ton product and, limit visible emissions to 15 percent opacity. BACT for the particulate matter emissions from the storage and loadout system is reflected by an opacity limit of 5 percent.

4.0 AIR IMPACTS ANALYSIS

An ambient air standards analysis is required for fluorides and particulate matter as there are applicable particulate matter ambient air standards and applicable monitoring thresholds for fluorides.

4.1 Significant Impact Analysis

The fluoride and particulate matter emission rates used for air quality modeling purposes for Significant Impact Analysis (SIA) represent the proposed net increase in the emission rate associated with the proposed project. Table 4-1 contains modeling input parameters used in the ambient air quality impacts analysis.

The SIA was conducted using the Industrial Source Complex-Short Term air quality model, Version 00101 (ISC-ST3), in accordance with guidelines established by EPA and published in the document, Guideline for Air Quality Modeling. The meteorological data used with the model were for Tampa, Florida and represented the period 1987-1991.

The maximum allowable federally enforceable emissions from the MAP/DAP Plant and the product storage and loadout system were modeled in the SIA. The maximum allowable current emission rates were represented as a negative input while the proposed emission rates were represented as positive inputs to the model. Changes and updates to the stack characteristics were also included.

The SIA modeling included discrete receptors at the facility property boundary and additional receptors established by the polar grid system extending to 10 kilometers from the plant. The discrete receptors were placed along the property boundary at 100 meter intervals. Fourteen sets of receptor rings were placed at distances ranging from about 500 to 10,000 meters from the plant with receptors placed at 10 degree intervals from 10° to 360° on each receptor ring, with the exclusion of receptors within property boundary. The downwind receptor distances were selected in order to provide a higher concentration of receptors closer to the source where the maximum impacts were expected. Receptor locations are shown in Figure 4-1.

The results of the SIA modeling, summarized in Table 4-2, demonstrate that the maximum predicted air impact of the fluorides and particulate matter emissions from the proposed project are below the 24-hour de-minimus levels; below the significant levels for the 24-hour and annual periods for the Class II area; and, below the significant level for the Class I area. Based on the results of the SIA, additional modeling was not required for the proposed project.

FIGURE 4-1

MODELING RECEPTOR LOCATIONS

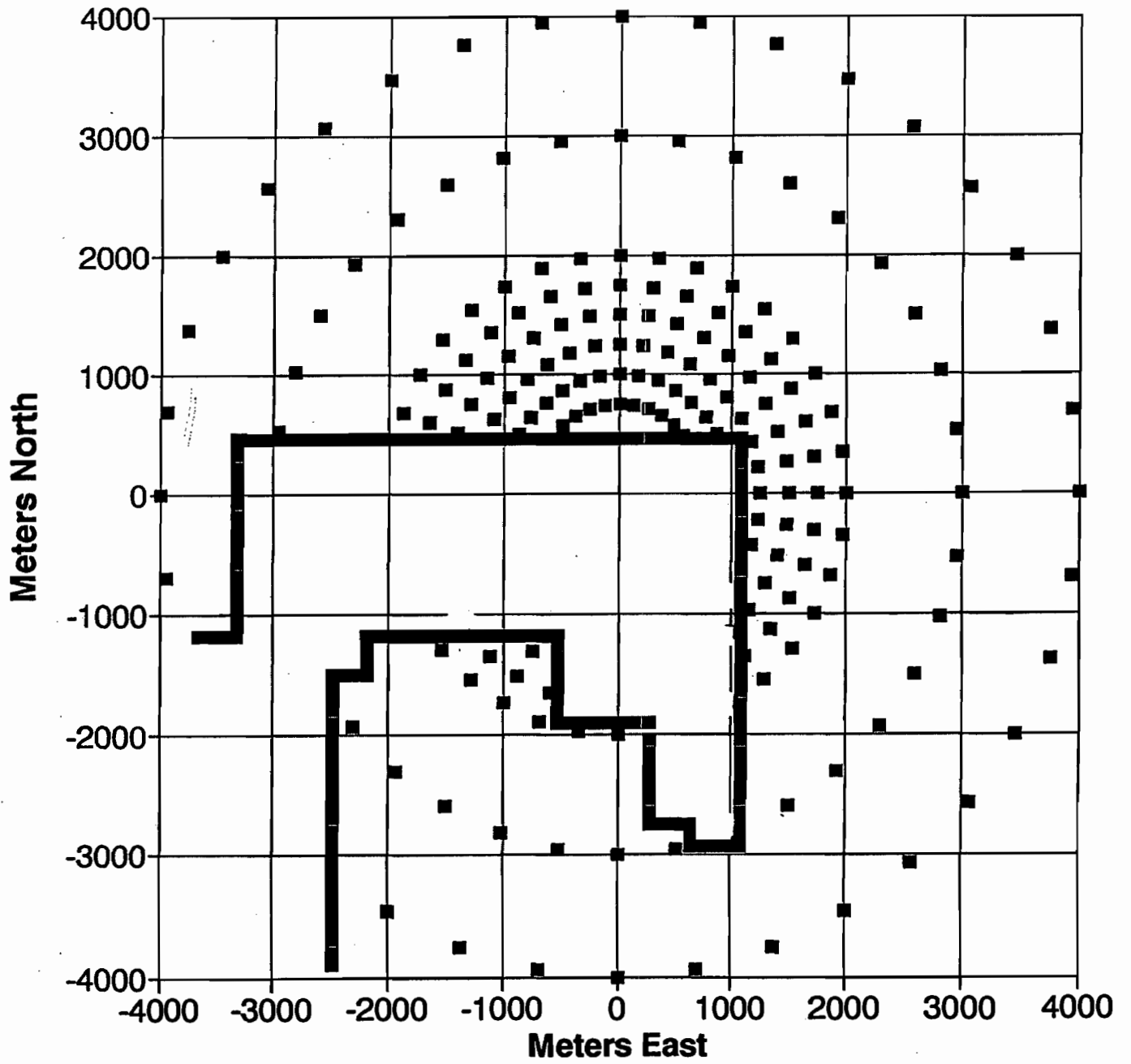


TABLE 4-1
 AIR QUALITY MODELING PARAMETERS
 MAP/DAP PLANT

<u>Emission Unit</u>	<u>Stack</u>		<u>Stack Gas</u>		<u>Emissions</u> (g/s)
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	
<u>Particulate Matter</u>					
Tower (1)	21.95	2.74	14.37	332	3.02
Tower (2)	41.30	2.05	15.81	338	3.02
Loadout (3)	15.24	0.43	14.40	300	0.54
Loadout (4)	15.24	0.37	26.90	300	0.54
<u>Fluorides</u>					
Tower (5)	41.30	2.05	15.81	338	0.123
Tower (6)	41.30	2.05	15.81	338	0.148

NOTES:

- (1) This worst-case conditions reflect plant in prilled product operation as modeled before.
- (2) The worst-case conditions reflect plant in prilled product operation based on stack parameters as proposed.
- (3) The worst-case conditions modeled reflect loadout operation as modeled before.
- (4) The worst-case conditions modeled reflect loadout operation based on stack parameters as proposed.
- (5) The worst-case conditions modeled reflect granular product operation as before.
- (6) The worst-case conditions modeled reflect granular product operation as proposed.
- (7) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2
SUMMARY OF SIGNIFICANT IMPACT ANALYSIS
MAP/DAP PLANT

MET. DATA	<u>CLASS I AREA IMPACTS (1)</u>		<u>CLASS II AREA IMPACTS (1)</u>		
	<u>PM</u>		<u>F</u>	<u>PM</u>	
	<u>24-HR</u>	<u>ANNUAL</u>	<u>24-HR</u>	<u>24-HR</u>	<u>ANNUAL</u>
1987	0	0	0.03	4.08	0
1988	0	0	0.03	3.39	0
1989	0	0	0.03	3.11	0
1990	0	0	0.03	3.50	0
1991	0	0	0.03	4.45	0
MAXIMUM	0	0	0.03	4.45	0
DI-MINIMUS (2)	NA	NA	0.25	10	NA
SIG. IMPACT (2)	0.3	0.2	NA	5	1

NOTE:

- (1) The impacts represent the highest-high impact.
- (2) As defined in Rule 62-212, FAC.
- (3) The impacts are based on the difference between the plant as modeled before and as proposed (see Table 4-1).

5.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

5.1 Impacts on Soils and Vegetation

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to "... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of fluorides and particulate matter expected in the vicinity of the proposed project are below the ambient air quality standards. In fact, the maximum predicted long term impacts based on the project as modeled are zero. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area.

USAC's Ft. Meade plant property and the surrounding areas are comprised of mining lands (phosphate), flatwoods, marshes, and sloughs. The soils of the area are primarily sandy and are typically low in both clay and silt content. These characteristics and the semi-tropic climatic factors of high temperature and rainfall are the natural factors that determine the terrestrial communities of the region.

The land in the vicinity of the plant supports various plant communities. Much of the natural vegetation on the site and the surrounding areas has been altered due to mining and industrial use; primarily the phosphate fertilizer industry. As a result of mining and industrial activity, there is very little undisturbed land in existence in the vicinity of the plant. As a result, no adverse impacts from the proposed project are expected on the soils and vegetation in the vicinity of the facility.

5.2 Growth Relate Impacts

The proposed project will require no increase in personnel to operate the facility. Also, an increase in traffic due is not expected, and any changes will likely have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project.

5.3 Visibility Impacts

The proposed project will result in an increase in air emissions and therefore has the potential for adverse impacts on visibility.

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. The emissions of particulate matter were input to the model. The VISCREEN - Level 1 modeling results, presented in Table 5-1, indicate that there will be no adverse visibility impacts from the proposed project.

5.4 Impacts on Air Quality Related Values for the Class I Area

The analysis addressed in this section addresses the review of the impact of increased emissions on air quality related values associated with the Chassahowitzka Wildlife Refuge, a Class I area located in excess of 100 kilometers northwest of the USAC Ft. Meade facility.

Given that the maximum predicted Class I area impacts based on the ISC3 modeling are zero, no adverse impact to the Class I area vegetation, soils, wildlife or visibility are expected.

A regional haze analysis was performed using the maximum predicted particulate matter impacts based on the NPS protocol, except using ISC3 results. The results of the regional haze analysis, presented in Table 5-2, indicate that no adverse visibility impacts are expected as a result of the proposed project.

TABLE 5-1

VISIBILITY SCREENING RESULTS

Source: Granular MAP/DAP Plant
 Class I Area: Chass.

Level-1 Screening Input Emissions for:

Particulates	3.56	G	/S
NOx (as NO2)	0.53	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

Default Particle Characteristics Assumed.

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	65.00	km
Source-Observer Distance:	110.00	km
Min. Source-Class I Distance:	110.00	km
Max. Source-Class I Distance:	130.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	110.0	84.	2.00	.123	.05	.002
SKY	140.	84.	110.0	84.	2.00	.022	.05	-.001
TERRAIN	10.	84.	110.0	84.	2.00	.058	.05	.001
TERRAIN	140.	84.	110.0	84.	2.00	.012	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	30.	83.4	139.	2.00	.151	.05	.002
SKY	140.	30.	83.4	139.	2.00	.026	.05	-.001
TERRAIN	10.	50.	96.1	119.	2.00	.074	.05	.001
TERRAIN	140.	50.	96.1	119.	2.00	.017	.05	.001

TABLE 5-2
REGIONAL HAZE ANALYSIS

Example Calculation

Background from the 20% Cleanest Days		
SO2 =	0.00329 ppm =	8.62 ug/m ³
SO4 = SO2 * 1.5 =	12.92	ug/m ³
(NH4)SO4 = 1.1875 * SO4 =	15.35	ug/m ³
NO2 =	0.0085 ppm =	16 ug/m ³
NO3 = 1.348 * NO2 =	21.55	
(NH4)2NO3 = 1.29 * NO3 =	27.80	ug/m ³
(NH4)SO4 + (NH4)2NO3 =	43.15	ug/m ³
PM10 =	22.5	22.5 ug/m ³
Assume 90% RH fRH =	5	
Background extinction =	b back	238.26 Mm-1

Source	Impact ug/m ³
NO2	0.0000
SO2	0.0000
H2SO4 =	0.00000
SO4 = SO2 * 1.5 =	0
(NH4)2SO4 = 1.375 * SO4 =	0.0000 ug/m ³
(SO2+H2SO4)*1.5*1.375 =	2.14 ug/m ³
NO3 = 1.348 * NO2 =	0.0000 ug/m ³
(NH4)NO3 = 1.29 * NO3 =	0.0000 ug/m ³
PM10 =	0.1 ug/m ³
Source extinction =	b source 0.100 Mm-1

Change in Deciview Ddv = 10 * ln (b back + b source / b back) =	0.004 dv
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6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion. The stacks associated with the proposed project are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

7.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the production rate of the Granular MAP/DAP Plant, as described in this report, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

APPENDIX A - EMISSIONS CALCULATIONS

ACTUAL EMISSION RATES

As there is almost no operating history associated with the granular MAP plant, the actual emissions are projected using the 2001 initial compliance test for the MAP Plant, and based on estimates presented to FDEP on the loadout, as follows:

Unit	Hours Projected	<u>Fluorides</u>		<u>Particulate Matter</u>		<u>Nitrogen Oxides</u>	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
MAP Plant	7166	0.52	1.86	6.98	25.0	2.0	7.2
Loadout	7166	NA	NA	1.03	3.7	NA	NA

Note: Tpy emissions are calculated as: lb/hr x hrs/yr / 2000 lbs/ton

ALLOWABLE EMISSION RATES

GMAP/DAP, F	= 31.8 tph P2O5 x 0.037 lb F/ton P2O5 x 8760 hrs/yr x ton/2000 lbs	= 1.18 lb/hr = 5.2 tpy
GMAP/DAP, PM	= 60 tph product x 0.17 lb F/ton product x 8760 hrs/yr x ton/2000 lbs	= 10.2 lb/hr = 44.7 tpy
GMAP/DAP, NOx	= 140 lb/MMCF x 0.03 MMCF/hr x 8760 hrs/yr x ton/2000 lbs	= 4.2 lb/hr = 18.4 tpy
Loadout, PM	= 0.02 gr/cf x 6000 cfm x lb/7000 gr x 60 min/hr x 8760 hrs/yr x ton/2000 lbs	= 1.03 lb/hr = 4.5 tpy

NET EMISSIONS INCREASES

F	= (5.2 – 1.86) tpy = 3.3 tpy (exceeds fluorides PSD significant level of 3 tpy)
PM	= (49.2 – 28.7) tpy = 20.5 tpy (exceeds PM10 PSD significant level of 15 tpy)
NOX	= (18.4 – 7.2) tpy = 11.2 tpy (below NOX PSD significant level of 40 tpy)

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions		
Permitted	Actual	
0.98	0.52	lbs of fluorides per hour;
0.037	0.021	lbs of fluorides per ton of equivalent P2O5 feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average			
25.0	Feedrate (tons P2O5/hr)		
47.1	Production rate (tons GMAP/hr)		
Scrubber	.Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NH3 Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

THIS DISK CONTAIN PARTICULATE MATTER (PM) AND FLUORINE MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS AND BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

C2-ASI	EXE	135,810	03-29-01	PM CLASS 2 AREA SIA ANALYSIS
C1-ASI	EXE	41,433	03-29-01	PM CLASS 1 AREA SIA ANALYSIS
FLUORINE	EXE	110,802	03-29-01	FLUORINE DEMINIMUS ANALYSIS
BPIP-01	EXE	20,062	03-29-01	BUILDING DOWNWASH CALCULATIONS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE PM ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:
C2-SIA AND PRESS ENTER.

THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES IN ASCII FORMAT DESCRIBED AS FOLLOWS:

CLASS 2 AREA IMPACT ANALYSIS:

C2ASI-87	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1987
C2ASI-88	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1988
C2ASI-89	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1989
C2ASI-90	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1990
C2ASI-91	OUT	226,533	03-28-01	IMPACT ANALYSIS FOR 1991

CLASS 1 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES:

C1ASI-87	OUT	40,712	03-28-01	IMPACT ANALYSIS FOR 1987
C1ASI-88	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1988
C1ASI-89	OUT	40,593	03-28-01	IMPACT ANALYSIS FOR 1989
C1ASI-90	OUT	40,578	03-28-01	IMPACT ANALYSIS FOR 1990
C1ASI-91	OUT	40,608	03-28-01	IMPACT ANALYSIS FOR 1991

FLUORINE IMPACT ANALYSIS:

FL87	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1987
FL88	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1988
FL89	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1989
FL90	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1990
FL91	OUT	184,769	03-28-01	IMPACT ANALYSIS FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-01.EXE. BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THE FOLLOWING BPIP FILES ARE PROVIDED:

USAC4SIT	INP	2,078	03-27-01	INPUT FOR SRC SOURCES
USAC4SIT	OUT	3,898	03-27-01	OUTPUT FOR SRC SOURCES
USAC4SIT	SUM	49,836	03-27-01	SUMMARY FOR SCR SOURCES

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CALL ME.

MARCH 30, 2001

MARK KOLETZKE, P.E.

KOGLER AND ASSOCIATES

(352) 377-5822

APPENDIX B - CURRENT TITLE V PERMIT CONDITIONS



Jeb Bush
Governor

Permittee:
U.S. Agri-Chemicals Corporation

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

FINAL Permit No.: 1050051-003-AV
Facility ID No.: 1050051
SIC Nos.: 28, 2874
Project: Revised Title V Air Operation Permit

Note: The previous Title V Operation Permit is replaced by this version (effective date 5/15/00, DEP Project No.: 006).

This permit is for the operation of the Ft. Meade Chemical Plant facility. This facility is located at 3225 State Road 630 West, Ft. Meade, Polk County; UTM Coordinates: Zone 17, 416.2 km East and 3068.7 km North; Latitude: 27° 44' 40" North and Longitude: 81° 51' 08" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX TV-3, TITLE V CONDITIONS (version dated 4/30/99)
APPENDIX SS-1, STACK SAMPLING FACILITIES(version dated 10/7/96)
TABLE 297.310-1, CALIBRATION SCHEDULE(version dated 10/7/96)
FIGURE 1 - SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSION
AND MONITORING SYSTEM PERFORMANCE REPORT(version dated 7/96)

Effective Date of Original Issuance: 09/11/98
Effective Date of Revision: 5/15/00
Renewal Application Due Date: 03/13/03
Expiration Date: 09/09/03

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

W.C. Thomas, P.E.
District Air Program Administrator
Southwest District

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of two phosphoric acid plants -- A and B Trains, one phosphoric acid plant tank farm, one MAP Plant, one MAP Loadout System, two sulfuric acid plants, one auxiliary boiler, one molten sulfur storage and handling system, and one lime silo.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Based on the initial Title V permit application received June 13, 1996, this facility is not a major source of hazardous air pollutants (HAPs). Based on the proposed rule "National Emission Standards for Hazardous Air Pollutants Phosphoric Acid Manufacturing and Phosphate Fertilizers Production" (reference Federal Register 12/27/96), this facility may be considered a major source of HAPS, and permitting considerations will be deferred until the promulgation of this MACT rule.

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-005	Phosphoric Acid Plant A-Train
-006	Auxiliary Boiler
-016	Sulfuric Acid Plant #1
-017	Sulfuric Acid Plant #2
-020	Phosphoric Acid Plant B-Train
-021	Phosphoric Acid Plant Tank Farm
-028	Molten Sulfur System -- Sulfur Tank
-029	Molten Sulfur System -- Sulfur Pit
-030	Molten Sulfur System -- Sulfur Rail Unloading
-031	Molten Sulfur System -- Sulfur Truck Unloading
-032	Prilled MAP Plant (includes MAP Storage & Loadout)
-033	Lime Silo
-035	Phosphogypsum Stack

Unregulated Emissions Units and/or Activities

-036 Facility-Wide Fugitive Emissions

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:

Table 1-1, Summary of Air Pollutant Standards and Terms

Table 2-1, Summary of Compliance Requirements

Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers

Appendix H-1, Permit History / ID Number Transfers

These documents are on file with permitting authority:

Initial Title V Permit Application received June 13, 1996

Revised Title V Permit Application received December 17, 1998

Additional Information Request dated February 17, 1998

Additional Information Response received May 15, 1998

Subsection E. This section addresses the following emissions unit(s).

E.U.

ID No. Brief Description

-032 Prilled MAP Plant (includes MAP Storage & Loadout)

The 60 TPH prilled MAP plant is based on the Swift prill tower process. In this process, diluted wet process phosphoric acid is reacted with ammonia vapor in a pipe reactor and sprayed into the top of the tower to produce MAP. Ambient air entering the bottom of the tower removes moisture in the MAP as they fall by gravity to the bottom of the tower. The gas in the tower is evacuated to a venturi scrubber. Product MAP is cooled in a cooler. The gas in the cooler is evacuated to a smaller venturi scrubber. The gas and liquid from both venturi scrubbers enter a cyclonic separator prior to being discharged to the atmosphere via a stack. A portion of the scrubber liquid is used to adjust the concentration of phosphoric acid in the day tank. Fresh water and/or cooling pond water is used to maintain scrubber water balance. The cooler discharges to a transfer system which carry the MAP to a storage building. From the storage building, MAP is loaded into railcars by a loadout system. Dust from the loadout system is controlled by a baghouse.

{Permitting note(s): These emissions units are regulated under Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards and Rule 62-296.403, F.A.C., Phosphate Processing.}

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

E.1. Capacity.

- a. The production rate of the Prilled MAP Plant shall not exceed 40.9 tons of MAP Product per hour, except as allowed by Condition E.1.b below.
- b. In order to regain the originally intended plant capacity of 60 tons of MAP product per hour, the permittee may conduct a performance test at a rate higher than 40.9 tons of MAP product per hour and up to 60 tons of MAP product per hour by notifying the Department at least 15 days in advance of the special test. The plant may be operated at the higher rate for only seven consecutive days and then must resume operation at no higher than 40.9 tons of MAP product per hour. Upon written approval of the performance test by the Department, which shall include a determination that the plant will be able to meet the limits of conditions E.2, E.3 and E.4, the plant will be authorized to operate at a rate up to and including the rate experienced during the performance test. In the process of regaining the originally intended capacity of 60 tons of MAP product per hour, the permittee shall not be required to undergo another PSD review and BACT determination for PM/PM10 under Rule 62-212.400, F.A.C.

or another BACT review for fluorides under Rule 62-296.403, F.A.C., unless the permittee submits an application to increase the plant's maximum operating capacity above 60 tons of MAP product per hour.

[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE), Air Construction permit AC53-260190/PSD-FL-222]

Emission Limitations and Standards

E.2. Particulate matter(PM)/PM₁₀ emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.4 pounds per ton of MAP product;
- b. 16.4 pounds per hour;
- c. 71.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 40.9 tons per hour of MAP product.}

E.3. Fluoride emissions from the Prilled MAP Plant scrubber stack shall not exceed any of the following:

- a. 0.019 pounds per ton of P₂O₅ input;
- b. 0.39 pounds per hour;
- c. 1.7 tons per year.

[Air Construction permit AC53-260190/PSD-FL-222]

{Permitting Note: Emission limits based on 20.5 tons per hour P₂O₅ input.}

E.4. Visible emissions from the Prilled MAP Plant scrubber stack shall not exceed 15% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

E.5. Visible emissions from the Prilled MAP Plant Loadout baghouse shall not exceed 5% opacity.

[Air Construction permit AC53-260190/PSD-FL-222]

Test Methods and Procedures

E.6. The Prilled MAP Plant scrubber stack shall be tested for the following pollutants annually, on or during the 60 day period prior to December 30.

- a. total fluorides;
- b. PM/PM₁₀;
- c. visible emissions.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.7. The Prilled MAP Plant Loadout baghouse shall be tested for visible emissions annually on or during the 60 day period prior to December 30.

[Rules 62-297.310(7)(a)4, F.A.C., and Air Construction Permit AC53-260190/PSD-FL-222]

E.8. Compliance with the emission limitations of Conditions E.6 and E.7 shall be determined using EPA Methods 1, 2, 4, 5, 9 and 13A or 13B contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-297, F.A.C. The actual production rate shall be specified in each test report. Failure to include the actual production rate in the report may invalidate the test.

[Rule 62-297, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.9. The Department's Bureau of Air Regulation Office in Tallahassee and the Southwest District Office shall be notified in writing at least 15 days prior to any emission test.

[Rule 62-297.310, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

E.10. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

E.11. The Prilled MAP Plant shall be subject to the following:

- a. Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hour in any 24 hour period unless specifically authorized by the Department for longer duration.
- b. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- c. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
- d. In case of excess emissions resulting form malfunctions, each source shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

[Rule 62-210.700, F.A.C., Air Construction Permit AC53-260190/PSD-FL-222]

Monitoring of Operations

E.12. In order to provide reasonable assurance, when the MAP Plant and MAP Loadout System are operating, that the pollution control system is operating properly, the permittee shall comply with Facility-wide Condition No. 9.

[Rule 62-4.070(3), F.A.C.].

E.13. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the scrubber operating parameters. The record log shall contain, at a minimum:

- a. the volumetric liquid flow rate (gallons per minute),
- b. the scrubber pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day that the MAP Plant operates.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

E.14. In order to provide reasonable assurance that the pollution control system is operating properly, the permittee shall create and keep a record log of the baghouse operating parameters. The record log shall contain, at a minimum:

- b. the pressure drop (inches of water),
- c. the date and time of the measurements, and
- d. the name of the person responsible for performing the measurements.

A log entry shall be made at least once for every day of operation of the MAP Loadout System.

NOTE: The permittee may substitute continuous monitoring and strip chart recordings for the manual recordkeeping required by this Condition.

[Rules 62-4.070(3), 62-4.160(14)(b), 62-4.160(14)(c), and 62-213.440(b)2.b., F.A.C.]

Recordkeeping and Reporting Requirements

E.15. In order to comply with Condition E.1, the permittee shall maintain hourly records of the MAP production rate.

[Rule 62-213.440(1), F.A.C.]

APPENDIX C - CURRENT CONSTRUCTION PERMIT CONDITIONS



Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

PERMITTEE:

U.S. Agri-Chemicals Corp.
3225 State Road 630 West
Ft. Meade, FL 33841

Permit No.: 1050051-008-AC
Effective Date: 09/28/1999
Expiration Date: 6/1/02
Project: Granular MAP/DAP Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-204 through 297, and Chapter 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

This permit is for the modification of the existing Prilled monoammonium phosphate (MAP) Plant to allow the production of up to 50 tons per hour (TPH) of granular MAP and/or diammonium phosphate (MAP/DAP) fertilizer. A new Granular MAP/DAP fertilizer plant will be constructed which shares some process equipment and air pollution control equipment with the existing Prilled MAP Plant. The plants will not be operated concurrently. When operating as the Prilled MAP Plant, the facility shall comply with the conditions contained Permit No. PSD-222-FL. When operating as the Granular MAP/DAP Plant, the facility shall comply with the conditions contained in this permit. Additionally, granular fertilizer from this plant and the Bartow facility may be stored in the existing storage building and loaded into railcars or trucks by the existing loadout system.

The new granulation equipment emission sources include the following: reactor, granulator, natural gas fired dryer, product screens, storage bin, bucket elevators, conveyors, and grinding mills. New air pollution control equipment includes a dryer high efficiency cyclone and a cooler high efficiency cyclone. The following existing air pollution control equipment, used at the Prilled MAP Plant, are also used to control emissions from the Granular MAP/DAP Plant: Tower Venturi, Cooler Venturi, and the cyclonic separator. The Granular MAP/DAP Plant process emission sources and associated air pollution control equipment are listed on the next page.

Granular MAP and DAP are made by reacting anhydrous ammonia and phosphoric acid in a covered reaction tank with the further addition of ammonia and acid in a granulator. The granulated product is then dried in a rotary drier. The dried product is sized by screening, grinding of oversized and recycling of undersized. The properly sized product is conveyed to the storage building for eventual loadout.

Emissions from the reactor and granulator are directed to a venturi/cyclonic ammonia absorber (R-G Ammonia Absorber) to recover ammonia and then to the existing Tower Venturi. The R-G Ammonia Absorber also controls particulate matter emissions. Emissions from the rotary dryer and material handling equipment are controlled by the new dryer cyclone and then the Tower

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Venturi. Emissions from the cooler are controlled by the new Cooler Cyclone and the Cooler Venturi. The Tower Venturi and Cooler Venturi are ducted to the cyclonic separator. The cyclonic separator contains a chevron-type mist eliminator to further reduce entrained scrubber liquors prior to exhaust to the atmosphere.

Granular MAP/DAP Emission Sources & Associated Control Equipment

Process Emission Source/Identifier*	Control Equipment
MAP/DAP Reactor	Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
MAP/DAP Granulator	
Dryer	Dryer Cyclone, Tower Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Screen Feed Elevator	
Product Screen A	
Product Screen B	
Product Bin	
Oversize Mill A	
Oversize Mill B	
Product Feeder	
Recycle Conveyor	
Recycle Elevator	
Product Transfer Conveyor	
Fines Reclaim Conveyor	covered conveyor
Fines Reclaim Hopper	located inside storage building
Cooler (<i>existing</i>)	Cooler Cyclone, Cooler Venturi (<i>existing</i>), cyclonic separator (<i>existing</i>)
Product Elevator (<i>existing</i>)	enclosed
Storage Transfer Conveyor (<i>existing</i>)	covered conveyor
Notes:	
1. Emissions from the reactor and granulator are ducted to the R-G Ammonia Absorber. Its primary purpose is to recover ammonia, so it is not considered control equipment. However, it controls PM/PM ₁₀ emissions and could be a source of fluoride emissions.	
2. The Tower Venturi is labeled "large venturi" in the June 22, 1999 process flow diagram.	
3. The Cooler Venturi is labeled "small venturi" in the June 22, 1999 process flow diagram.	
4. All equipment is new unless otherwise noted.	

*from process flow diagram received June 22, 1999

Rule Applicability Notes:

- The granular DAP Method of Operation is subject to 40 CFR 60 Subpart V, *Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants* and Rule 62-296.403(f), *Phosphate Processing*.
- The granular MAP Method of Operation is subject to Rule 62-296.403(i), F.A.C., *Phosphate Processing*. This rule requires Best Available Control Technology (BACT) to control fluoride emissions during granular MAP production.

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- The facility has requested that this project be permitted as a non-PSD source. Therefore, this permit contains limitations to ensure that this modification does not exceed PSD significant increase levels.

Location: Ft. Meade Chemical Plant, State Road 630, 2 miles west of Ft. Meade, Polk County
UTM: 17-416.2 km East 3068.7 km North
Latitude: 27° 44' 40" North and **Longitude:** 81° 51' 08" West.
Facility ID No.: 1050051

Referenced Attachments

Best Available Control Technology (BACT) Determination dated September 10, 1999
 Alternate Procedures and Requirements ASP No. 95-H-01

Permit History: No previous permits for the Granular MAP/DAP Plant. The Prilled MAP Plant is permitted under Permit No. PSD-222-FL.

The following conditions apply to the emissions unit listed below:

EU No.	EU Description
038	Granular MAP/DAP Plant
Notes: EU = Emissions Unit	
Please reference Permit No. and Emission Unit No. in all correspondence, test report submittals, etc.	

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions and BACT determination dated September 10, 1999 [Rule 62-4.160, F.A.C.]
2. All applicable rules and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations.
[Rule 62-210.300, F.A.C.]
3. Unless otherwise indicated, the construction of the Granular MAP/DAP Plant shall be in accordance with the capacities and specifications in the application or in updated submittals.
[Rule 62-210.300, F.A.C.]
4. Pursuant to Rule 62-204.800, F.A.C., the permittee is subject to 40 CFR 60 Subpart V and the general provisions of 40 CFR 60 Subpart A, where applicable.

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Operation Limitations

5. The dryer shall be fired with natural gas only.
[Rules 62-4.160(2), F.A.C. and 62-213.440(1), F.A.C.]

6. The Granular MAP/DAP Plant is allowed to operate continuously, i.e., 8,760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

7. The P₂O₅ process input rate shall not exceed 26.5 TPH (daily average basis) and 158,920 tons per consecutive 12-month period.
[Rule 62-210.200(PTE), F.A.C.]

8. The production rate of granular MAP/DAP shall not exceed 50 TPH (daily average basis) and 300,000 tons per consecutive 12-month period for the total of both products. If any prilled MAP is produced during the same 12-month period, the above annual limitation is presented by the following equation:

$$G = 300,000 - P/1.9$$

where:

G = granular MAP/DAP production limit, tons per consecutive 12-month period

P = production of prilled MAP, tons per consecutive 12-month period

[Rule 62-210.200(PTE), F.A.C.]

Permitting Note: The production of prilled MAP is currently limited to 358,284 tons per consecutive 12-month period (i.e., 40.9 TPH x 8760 hrs/yr) in Permit No. PSD-FL-222. If the prilled MAP production limit is increased, the above condition must be modified to ensure that the potential fluoride emissions from the production of prilled MAP and granular MAP/DAP do not exceed 2.94 tons per consecutive 12-month period.

9. The permittee shall not allow any person to circumvent any pollution control device nor allow the emissions of air pollutants without the applicable air pollution control device operating properly.

[Rule 62-210.650, F.A.C.]

10. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any emissions unit whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling without taking reasonable precautions to prevent such emissions.

[Rule 62-296.320(4)(c)1, F.A.C.]

11. Reasonable precautions may include, but shall not be limited to the following:

- (a) Paving and maintenance of roads, parking areas and yards.

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- (b) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- (c) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stockpiles and similar emissions units.
- (d) Removal of particulate matter from roads and other paved areas under the control of the permittee of the emissions unit to prevent reentrainment, and from buildings or work areas to prevent particulate matter from becoming airborne.
- (e) Landscaping or planting of vegetation.
- (f) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- (g) Confining abrasive blasting where possible.
- (h) Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c)3, F.A.C.]

12. The following work practices (reasonable precautions) shall be followed:

- (a) The site yard, stockpiles, roadways, parking areas under control of the permittee shall be maintained to control emissions of unconfined particulate matter.
- (b) Apply water when necessary to control emissions of unconfined particulate matter.
- (c) Maintaining covers/enclosures for the Fines Reclaim Conveyor, Product Elevator, and Storage Transfer Conveyor.

[Rule 62-296.320(4)(c)2, F.A.C., response letter dated June 22, 1999]

13. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320, F.A.C.]

Emission Limitations

14. Total fluoride emissions from the Granular MAP/DAP Plant shall not exceed 0.98 lb/hr, 2.94 tons per consecutive 12-month period, and 0.037 lb F/ton of P₂O₅ input.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: This limitation is more stringent than that contained in 40 CFR, Subpart V.

15. Total fluoride emissions from the Granular MAP/DAP Plant and the Prilled MAP Plant combined shall not exceed 2.94 tons per consecutive 12-month period.

[Rule 62-210.200 (PTE), F.A.C.; proposed by applicant in 5/18/99 permit application]

Permitting Note: Permit No. PSD-FL-222 limits annual total fluoride emissions to 1.7 tons from the Prilled MAP Plant.

16. PM/PM₁₀ emissions from the Granular MAP/DAP Plant shall not exceed 8.38 lb/hr, 25.1 tons per consecutive 12-month period, and 0.168 lb PM/ton of product.

[Rules 62-210.200 (PTE) & 62-212.400, F.A.C.]

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17. Visible emissions from the cyclonic separator stack shall not exceed 15% opacity.
[Requested in permit application dated 5/17/99]

Excess Emissions

18. The Granular MAP/DAP Plant shall be subject to the following:

(a) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

(b) Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.

(c) Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(d) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.

(e) In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.
[40 CFR 60 Subpart A, Rule 62-210.700, F.A.C.]

Monitoring of Operations

19. The permittee shall install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ± 5 percent over its operating range.
[40 CFR 60.223(a); Rule 62-204.800, F.A.C.]

20. The permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate (TPH) of phosphorus-bearing feed using a flow monitoring device meeting the requirements of Specific Condition No. 19 and then by proceeding according to the following procedure:

The equivalent P_2O_5 feed rate (P) shall be computed for each operating day using the equation:

$$P = (M_p) \times (R_p)$$

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where: M_p = total mass flow rate of phosphorus-bearing feed (TPH)
 R_p = P_2O_5 content, decimal fraction

The monitoring device required in Specific Condition No. 19 shall be used to determine total mass flow rate of the phosphorus-bearing feed. An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P_2O_5 content of the feed.

[40 CFR 60.223(b); Rules 62-204.800 & 62-4.070(3), F.A.C.]

21. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure and permanently record the pressure drop separately across the Tower Venturi and Cooler Venturi scrubbers. The monitoring devices shall have an accuracy of ± 5 percent over its operating range.

[40 CFR 60.223(c); Rule 62-204.800, F.A.C.]

22. The permittee shall monitor and record the pressure drop of the R-G Ammonia Absorber at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

23. The permittee shall install, calibrate, maintain, and operate monitoring devices which continuously measure the liquid flowrate for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi. The flowrates shall be recorded at least once per 8-hour operating shift.

[Rule 62-213.440(1)(b), F.A.C.]

24. The permittee shall determine and record the scrubbing medium nitrogen to phosphorus (N:P) ratio for each of the following, via grab or composite sample, at least once per operating day: R-G Ammonia Absorber and final scrubbing system (i.e., Tower Venturi, Cooler Venturi, and cyclonic separator).

[Rule 62-213.440(1)(b), F.A.C.]

25. Recordkeeping for Specific Condition Nos. 22, 23, and 24 shall include the date and time of the measurements and the name of the person responsible for recording the measurements. This does not apply to continuous recording devices.

[Rule 62-213.440(1)(b), F.A.C.]

26. In order to provide reasonable assurance that the Granular MAP/DAP Plant air pollution control equipment is functioning properly during plant operation, the following set of scrubber operating parameters shall be maintained at a minimum of 90% of the values measured and recorded during any single prior satisfactory compliance tests conducted at a minimum of 90% of the maximum allowed operation rate: liquid flowrate and pressure drop for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi and N:P ratio for the R-G Ammonia Scrubber and final scrubber system. Satisfactory compliance tests conducted below 90% of the maximum allowed operating rate will establish a set of new minimum scrubber parameter values for that lower operating rate (this does not exclude the use of parameter values previously established for higher operating rates).

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U.S. Agri-Chemicals Corp.
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC ~
Project: Granular MAP/DAP Plant

A value outside of the acceptable scrubber operating parameter ranges does not necessarily constitute a violation, but rather establishes a requirement for an additional compliance test or tests as specified below:

Within 30 days of the operation of a pollution control device lower than 90% of the minimum acceptable numerical control parameter determined during satisfactory compliance tests as detailed above, the permittee shall conduct a compliance test for fluoride and PM/PM₁₀ (except in the case of the N:P ratio, for which only a fluoride test is required) with the pollution control device operating at no higher than 110% of the lower value at which it operated, in order to demonstrate compliance. Prior notification shall be given to the Air Compliance Section of the Department's Southwest District (DEP-SWD),

The test result(s) shall be submitted to the Air Compliance Section of the DEP-SWD within 45 days of testing. Acceptance of the test(s) by the Department will establish whether the operation of the pollution control device, at the observed parameter, was not a violation of this permit. Furthermore, the permittee may submit an application to amend this permit to reflect the lower control parameter.

[Rules 62-4.070(3) & 62-210.650, F.A.C.]

Compliance Testing Requirements

27. Initial Compliance Test (Granular MAP/DAP Plant) Within 60 days after achieving the maximum production rate at which the MAP/DAP Plant will be operated, but not later than 180 days after its initial startup, the permittee shall conduct initial compliance tests for fluorides, PM/PM₁₀, and visible emissions on the cyclonic separator stack.

[40 CFR 60.8(a) and Rule 62-297.310(7)(a)1, F.A.C.]

28. Subsequent Compliance Tests. The cyclonic separator stack shall be tested for fluorides and visible emissions each federal fiscal year after the initial compliance test, during the period May - October. In addition, in the year prior to the five-year anniversary of the initial PM/PM₁₀ compliance test, conduct a PM/PM₁₀ compliance test on the cyclonic separator stack.

[Rule 62-297.310(7)(a)3 & 4, F.A.C.]

29. Test Methods

(a) Fluoride emissions testing shall be conducted in accordance with EPA Method 13A or 13B or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. (see attached ASP No. 95-H-01). An approved method listed in 40 CFR 63.606(c)(3)(ii) shall be used to determine the P₂O₅ content of the phosphate feed.

(b) PM/PM₁₀ emissions testing shall be conducted in accordance with EPA Method 5 or other methods approved by the Department as an Alternate Procedure in accordance with Rule 62-297.620, F.A.C. The sample volume for each run shall be at least 30 dscf.

(c) When both particulate matter and visible emissions testing are required, the tests shall be conducted concurrently.

PERMITTEE:

U.S. Agri-Chemicals Corp.
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC
Project: Granular MAP/DAP Plant

(d) Visible emissions observations shall be conducted in accordance with EPA Method 9 and shall be a minimum of 30 minutes.

(e) The minimum requirements for stationary point source emission test procedures shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 60 Appendix A.

[Rules 62-296.320(4)(a)3(i), 62-297.310(4)(a)2, 62-4.070(3) & 62-297.401, F.A.C. 40 CFR 60.224]

30. At least 30 days prior to the date on which the initial Granular MAP/DAP Plant compliance test (15 days prior for all other tests) is due to begin, the permittee shall provide written notification of the test to the Air Compliance Section of the Department's Southwest District (DEP-SWD). The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and telephone number of the person conducting the test.

[Rule 62-297.340(1)(i), F.A.C.]

31. Test Operation Rate. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity as defined below. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit (i.e., 50 TPH production rate and 26.5 TPH P₂O₅ input rate).

[Rule 62-297.310(2), F.A.C.]

32. Test Report. The permittee of an air pollution emissions unit, for which compliance tests are required, shall file a report with the Air Compliance Section of the DEP-SWD on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after each test is completed. The test report shall provide, at minimum, the information required in Rule 62-297.310(8), F.A.C. In addition the report shall provide the following information for each test run:

- MAP/DAP production rate (TPH)
- P₂O₅ input rate (TPH)
- Liquid flowrate (GPM) and pressure drop (inches H₂O) for the R-G Ammonia Absorber, Tower Venturi, and Cooler Venturi
- Makeup liquid of the final scrubbing system
- N/P ratio for the R-G Ammonia Absorber and the final scrubbing system

[Rule 62-297.310(8), F.A.C.]

PERMITTEE:

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Ft. Meade Chemical Plant

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Project: Granular MAP/DAP Plant

33. Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

Reporting And Recordkeeping Requirements

34. The permittee shall furnish written notification to the Department as follows:

- (a) A notification of the date construction of the Granular MAP/DAP Plant is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
- (b) A notification of the anticipated date of initial startup of the Granular MAP/DAP Plant postmarked not more than 60 days nor less than 30 days prior to such date.
- (c) A notification of the actual date of initial startup of the Granular MAP/DAP Plant postmarked within 15 days after such date.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

35. Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 CFR 60.7; Rule 62-204.800, F.A.C.]

36. A recordkeeping log shall be established and maintained to document compliance with Condition Nos. 7, 8, and 20. The daily logs shall be updated and completed by the end of the operating day. The monthly logs shall be updated and completed by the 15th day of the following month. The logs shall include, at a minimum, the following:

daily (each operating day)

- (a) date
- (b) hours of operation
- (c) the calculated P₂O₅ feed rate (TPH, daily average basis)
- (d) the calculated MAP/DAP production rate (TPH, daily average basis)

monthly

- (e) month
- (f) monthly P₂O₅ input and production of granular MAP/DAP and prilled MAP (tons)
- (g) P₂O₅ input and production of granular MAP/DAP and prilled MAP for the most recent consecutive 12-month period (tons)
- (h) if prilled MAP was produced during the most recent consecutive 12-month period, calculate the reduced production limit for granular MAP/DAP in accordance with Specific Condition No. 8 (tons per consecutive 12-month period)

PERMITTEE:

U.S. Agri-Chemicals Corp.
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC
Project: Granular MAP/DAP Plant

These records shall be retained on file at the facility for at least five years and shall be made available to the Department upon request.

[Rule 62-213.440(1)(b), F.A.C.; 40 CFR 60.223(b)]

37. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department 60 days before the expiration of the permit.

[Rule 62-4.090, F.A.C.]

38. The permittee shall submit an Annual Operating Report to the Department's Southwest District office by March 1 of the following year for the previous year's operation.

[Rule 62-210.370(3), F.A.C.]

PSD Applicability

39. Based on the limitations contained in this permit, this modification at an existing PSD major facility is not considered a significant modification subject to PSD review on the basis that the net emissions increases associated with the modification were determined to be not significant (ref. Table 2, Rule 62-212.400, F.A.C.). Should the permittee request relaxation of any emission or operational limitations in this permit that would affect the potential to emit of this facility, the Department will evaluate the applicability of the PSD requirements of Chapter 62-212, F.A.C. as if the modifications allowed by this permit had not yet taken place.

[Rule 62-212.400(2)(g), F.A.C.]

Title V Operation Permit

40. A request for an operation permit must be submitted to the Department at least 180 days prior to the expiration date of this construction permit. To properly request an operation permit, the permittee shall submit:


(a) A completed DEP Form 62-210.900(1), F.A.C., *Application for Air Permit - Title V Source*.

(b) A copy of the test report required in Specific Condition No. 32, unless previously submitted.

(c) A copy of the records required in Specific Condition No. 36 for the most recent month.

[Rules 62-4.070(3) & 62-210.300(2), F.A.C.]

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION


FOR W.C. Thomas, P.E.
District Air Administrator
Southwest District

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

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Here

Recipient's Name (Please Print Clearly) (to be completed by mailer)
Mr. Phong T. Vo

Street, Apt. No., or PO Box No.
3225 State Rd 630 West

City, State, ZIP+4
Ft. Meade, FL 33841-9799

PS Form 3800, February 2000

See Reverse for Instructions

U.S. Postal Service
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Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To
 Phong T. Vo

Street, Apt. No., or PO Box No.
 3225 State Road 630 West

City, State, ZIP+4
 Ft. Meade, FL 33841-9799

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)													
OFFICIAL USE													
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Total Postage & Fees	\$												
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Sent To													
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Ft. Meade, FL 33841-9799													
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PS Form 3800, May 2000	See Reverse for Instructions												

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY												
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<table border="1"> <tr> <td>A. Received by (Please Print Clearly)</td> <td>B. Date of Delivery</td> </tr> <tr> <td></td> <td style="text-align: center;">1-30</td> </tr> <tr> <td>C. Signature</td> <td><input type="checkbox"/> Agent</td> </tr> <tr> <td style="text-align: center;">X <i>W Wash</i></td> <td><input type="checkbox"/> Addressee</td> </tr> <tr> <td>D. Is delivery address different from item 1?</td> <td><input type="checkbox"/> Yes</td> </tr> <tr> <td>If YES, enter delivery address below:</td> <td><input type="checkbox"/> No</td> </tr> </table>	A. Received by (Please Print Clearly)	B. Date of Delivery		1-30	C. Signature	<input type="checkbox"/> Agent	X <i>W Wash</i>	<input type="checkbox"/> Addressee	D. Is delivery address different from item 1?	<input type="checkbox"/> Yes	If YES, enter delivery address below:	<input type="checkbox"/> No
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C. Signature	<input type="checkbox"/> Agent												
X <i>W Wash</i>	<input type="checkbox"/> Addressee												
D. Is delivery address different from item 1?	<input type="checkbox"/> Yes												
If YES, enter delivery address below:	<input type="checkbox"/> No												
1. Article Addressed to: Mr. Phong T. Vo General Manager of Engineering & Technical Services US Agri-Chemicals 3225 State Road 630 West Ft. Meade, FL 33841-9799	3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> -C.O.D.												
2. Article Number (Copy from service label) 7000 2870 0000 7028 3154	4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes												

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Permit No. G-10

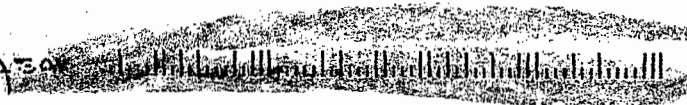


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Dept. of Environmental Protection
Division of Air Resources Mgt.
Bureau of Air Regulation, NSR
2600 Blair Stone Rd., MS 5505
Tallahassee, FL 32399-2400

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FEB 08 2002
BUREAU OF AIR REGULATION

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U.S. Postal Service
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
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Phong T. Vo
 Street, Apt. No.;
 or PO Box No.
3225 State Road 630 West
 City, State, ZIP+4
Ft. Meade, FL 33841

PS Form 3800, January 2001

See Reverse for Instructions

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Phong T. Vo
 U.S. Agri-Chemicals Corporation
 3225 State Road 630 West
 Ft. Meade, FL 33841

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3-18-02

C. Signature

X *Phong T. Vo* Agent Addressee

D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee)

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USPS
Permit No. G-10

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

BUREAU OF AIR REGULATION

RECEIVED
MAR 20 2002



PSD 7L 321

3/23/05

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)	
Mr. Ronald L. Brunk, Manager, Environ. Engineering	
Postage \$	Postmark Here
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	
Sent To Mr. Ronald L. Brunk, Manager, Environ. Engineering	
Street, Apt. No., or PO Box No. 3225 State Road 630 West	
City, State, ZIP+4 Ft. Meade, Florida 33841-9778	
PS Form 3800, May 2000	See Reverse for Instructions

7000 2870 0000 7027 9973

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1 Article Addressed to:

Mr. Ronald L. Brunk
Manager, Environmental Engineering
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9778

2 Article Number
(Transfer from service label)

7000 2870 0000 7027 9973

COMPLETE THIS SECTION ON DELIVERY

A. Signature

[Signature] Agent
 Addressee

B. Received by (Printed Name)

C. Date of Delivery

- D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

UNITED STATES POSTAL SERVICE



First-Class Mail
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USPS FROM
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box.

Dept. of Environmental Protection
Division of Air Resources Mgmt.
Bureau of Air Regulation, NSR
2600 Blair Stone Road, MS 5505
Tallahassee, Florida 32399-2400

REC'D
MAR 07 2005
BUREAU OF AIR REGULATION

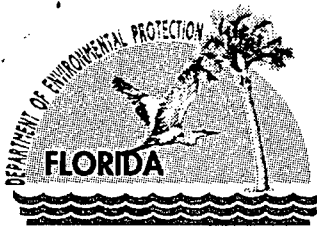
Florida Department of
Environmental Protection

Memorandum

TO: Trina Vielhauer
THRU: Jim Pennington
FROM: Syed Arif *Syed Arif*
DATE: February 24, 2005
SUBJECT: US Agri-Chemicals, Inc.
DEP File No. 1050051-015-AC/PSD-FL-321
Extension Request

Attached for your approval is a 7-month extension of the expiration date from February 28, 2005 to September 30, 2005 for US Agri-Chemicals' Ft. Meade Granular MAP/DAP Plant in Polk County. The company has already submitted for an operation permit renewal, an extension is needed for issuance of the renewed Title V permit. The Title V renewal application is still insufficient at this time, and additional information regarding MACT compliance will be submitted by the applicant. This construction permit will be rolled into the Title V renewal permit once the applicant provides the necessary compliance tests.

Attachments



Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

February 24, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ronald L. Brunk
Manager, Environmental Engineering
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9778

Re: Extension Request/DEP File No. 1050051-015-AC (PSD-FL-321)

Dear Mr. Brunk:

In accordance with your request, the expiration date of the referenced permit is hereby extended through **September 30, 2005**. The extension is necessary to complete compliance testing and prepare the Title V permit revision.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when

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Printed on recycled paper.

petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

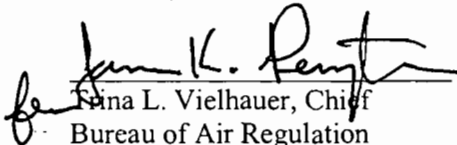
Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-

106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.


Anna L. Vielhauer, Chief
Bureau of Air Regulation

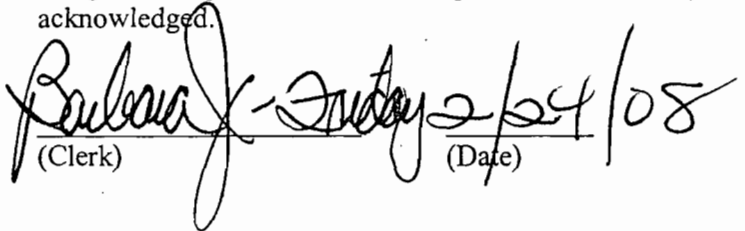
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this PERMIT EXTENSION was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2/24/08 to the person(s) listed:

Mr. Ronald L. Brunk, US Agri-Chemicals*
Dr. John B. Koogler, Koogler & Associates
Mr. Jerry Kissel, DEP-SWD

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


(Clerk) 2/24/08 (Date)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. Ronald L. Brunk
 Manager, Environmental Engineering
 US Agri-Chemicals
 3225 State Road 630 West
 Ft. Meade, Florida 33841-9778

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee


B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number
 (Transfer from service label) 7000 2870 0000 7027 9973

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

**U.S. Postal Service
 CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)**

7000 2870 0000 7027 9973

Mr. Ronald L. Brunk, Manager, Environ. Engineering

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Sent To
 Mr. Ronald L. Brunk, Manager, Environ. Engineering
 Street, Apt. No., or PO Box No.
 3225 State Road 630 West
 City, State, ZIP+4
 Ft. Meade, Florida 33841-9778

AFFIDAVIT OF PUBLICATION

THE LEDGER

Lakeland, Polk County, Florida

Case No

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared Ken Holtzinger, who on oath says that he is the Classified Manager of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

Notice of Intent

in the matter of DEP File No. 1050051-015-AC

in the

Court, was published in said newspaper in the issues of

2-8; 2002

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed

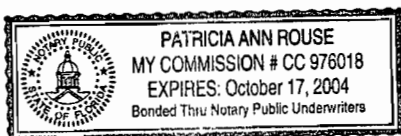
Ken Holtzinger
Ken Holtzinger
Classified Manager
Who is personally known to me.

Sworn to and subscribed before me this 11TH

day of FEBRUARY A.D. 20 02

Patricia Ann Rouse
Patricia Ann Rouse
Notary Public

PATRICIA ANN ROUSE



(Seal)

My Commission Expires.....

Attach Notice Here

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 1050051-015-AC; PSD-FL-321
Ft. Meade Facility
U.S. Agri-Chemicals Corporation
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue on a construction permit to U.S. Agri-Chemicals Corporation to allow an increase in the production rate of the existing Granular MAP/DAP Plant at its phosphate fertilizer manufacturing facility located in Ft. Meade, Florida. A Best Available Control Technology (BACT) determination was required for fluorides (F), particulate matter (PM) and particulate matter less than or equal to 10 micrometers (PM₁₀) pursuant to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). The applicant's name and address (air facility address) are U.S. Agri-Chemicals Corporation, 3225 State Road 630 West, Ft. Meade, Florida 33841.

The proposed changes will include pumps and piping, as necessary. No major equipment change are proposed as part of this project to increase the production rate.

The Department proposes the continued use of the existing scrubbing system with limitations of 0.037 lb/ton P₂O₅ input and 0.17 lb/ton product for fluorides and particulate matter, respectively, as BACT for the Granular MAP/DAP Plant.

An air quality impact analysis was conducted. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards. The maximum predicted F impacts are below de-minimis levels. The maximum predicted PM₁₀ impacts are below de-minimis and significant levels, as follows:

Averaging Time	Maximum Impact (µg/m ³)	Significant Impact Level (µg/m ³)	De-minimis Level
PM ₁₀			
24-hour	2.5	5	10
Annual	0.3	1	NA
F			
24-hour	0.07	NA	0.25

PSD Class 1 significant impact levels were not exceeded in the PSD Class 1 Chassahowitzka National Wilderness Area located 110 km to the northwest, therefore a multi-source Class 1 PSD increment analysis for particulate matter was not required. Based on the analysis, the Department has reasonable assurance that the proposed project will not cause or significantly contribute to a violation of any or PSD increment in the Class 1 area.

The Department will issue the Final Air Construction Permit in accordance with the conditions of the Draft Air Construction Permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions. The permitting authority has determined that an Air Construction Permit is required.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of 30 (Thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing this proceeding. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3) of the Florida Statutes must be filed within fourteen days of receipt of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when the petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petitioner must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection
Bureau of Air Regulation
Suite 4, 111 S. Magnolia Drive
Tallahassee, Florida 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Dept. of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218
Telephone: 813/744-6100
Fax: 813/744-6084

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

G337 - 2-8; 2002

