



Jeb Bush  
Governor

# Department of Environmental Protection

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. 1050051-009-AC (PSD-FL-278)

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

*"More Protection, Less Process"*

*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.

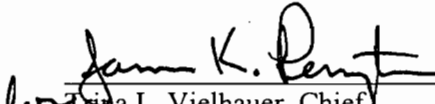
Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable 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 2/24/05 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) 2/24/05 (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  
 Manger, 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 9966

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Mary Thomas*

Agent

Addressee

B. Received by (Printed Name)

*Mary Thomas*

C. Date of Delivery

*2-28-05*

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

**U.S. Postal Service  
 CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

7000 2870 0000 7027 9966

Mr. Ronald L. Brunk, Manager, Environ. Engineering

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

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

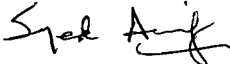
PS Form 3800, May 2000

See Reverse for Instructions

Florida Department of  
Environmental Protection

Memorandum

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TO: Trina Vielhauer  
THRU: Jim Pennington  
FROM: Syed Arif   
DATE: February 24, 2005  
SUBJECT: US Agri-Chemicals, Inc.  
DEP File No. 1050051-009-AC/PSD-FL-278  
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 Chemical Plant (Sulfuric Acid Plants No. 1 & 2 and Phosphoric Acid Trains A & B) 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

**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  
 Manger, Environmental Engineering  
 US Agri-Chemicals  
 3225 State Road 630 West  
 Ft. Meade, Florida 33841-9778

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee  
*X Mary Thomas*

B. Received by (Printed Name) C. Date of Delivery  
*Mary Thomas* *2-28-05*

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 9966

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)**

**OFFICIAL USE**  
 Mr. Ronald L. Brunk, Manager, Environ. Engineering

7000 2870 0000 7027 9966

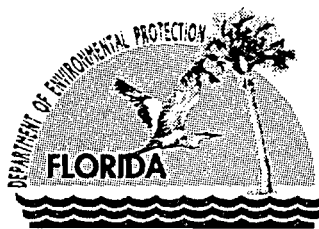
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

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

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

December 9, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ronald L. Brunk, Manager  
Environmental Engineering  
US Agri-Chemicals  
3225 State Road 630 West  
Ft. Meade, FL 33841-9799

Re: Extension Request/DEP File No. 1050051-009-AC (PSD-FL-278)

Dear Mr. Brunk:

The Department reviewed your request dated July 16, 2002 and additional information letter dated October 15, 2002 to extend the expiration date of the construction permit from October 1, 2002 to December 31, 2004. Per your letter, we understand that due to continuing downturn in the fertilizer business, US Agri-Chemicals is unable at this time to commit the capital to finish the project by the expiration date.

Per Rule 62-4.080(3), F.A.C., an extension for a construction permit shall be granted if the applicant can demonstrate reasonable assurances that upon completion, the extended permit will comply with the standards and conditions required by applicable regulation.

The expiration date of the permit is hereby extended through **December 31, 2004** for the purposes of completing the following tasks:

- Upgrade phosphoric acid clarification pumps and establish inline spares
- Increase the number of sulfuric acid sulfur steaming stations
- Increase phosphoric acid evaporator feed and product line
- Upgrade phosphoric acid filtrate pumps and establish inline spares
- Upgrade rock tunnel conveyor system to improve the blending of rock
- Upgrade phosphoric acid pumps to waterless or near waterless seals

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

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*Printed on recycled paper.*

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.

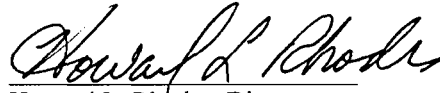
Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable 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.

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.



Howard L. Rhodes, Director  
Division of Air Resources  
Management


**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this PERMIT MODIFICATION was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 12/11/02 to the person(s) listed:

Ronald L. Brunk, US Agri-Chemicals\*  
Jerry Kissel, DEP SWD  
Jeananne Gettle, EPA  
John Bunyak, NPS  
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.

 December 11, 2002  
(Clerk) (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:

Ronald L. Brunk, Manager  
 Environmental Engineering  
 US Agri-Chemicals  
 3225 State Road 630 W  
 Ft. Meade, FL 33841-9799

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X *R. Wash*

- Agent
- Addressee

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 7001 0320 0001 3692 7386

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952

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

7001 0320 0001 3692 7386

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

Postmark  
Here

Sent To  
 Ronald L. Brunk  
 Street, Apt. No. or PO Box  
 3225 State Road 630 W.  
 City, State, ZIP+4  
 Ft. Meade, FL 33841-9799

PS Form 3800, January 2001

See Reverse for Instructions



A Sinochem Company

RECEIVED

OCT 17 2002

BUREAU OF AIR REGULATION

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

October 15, 2002

Re: Extension Request/DEP File No. 1050051-009-AC (PSD-FL-278)

As per your request on July 30, 2002 listed below are the conditions required in order to comply with Rule 62-4.080(3), F.A.C.

1) *List the tasks to be performed to achieve 'normal operating conditions' and the approximate dates for completing those tasks.*

- ❖ Upgrade phosphoric acid clarification pumps and establish inline spares
  - Completion – December, 2003
- ❖ Increase the number of sulfuric acid sulfur steaming stations
  - Completion – December, 2003
- ❖ Increase phosphoric acid evaporator feed and product line
  - Completion – December, 2003
- ❖ Upgrade phosphoric acid filtrate pumps and establish inline spares
  - Completion – December 2004
- ❖ Installation of a 6<sup>th</sup> evaporator and installation of a 5<sup>th</sup> outbound pondwater pump.
  - Completion – December, 2004
- ❖ Upgrade rock tunnel conveyor system to improve the blending of rock
  - Completion – December, 2004
- ❖ Upgrade phosphoric acid pumps to waterless or near waterless seals
  - Completion – May, 2005

2) *Identify additional production and emission testing that needs to be conducted and provide estimated dates for completion of those tasks.*

- ❖ Emission testing will be performed after the completion of all items listed above. Testing will be complete May 2005.



3) *Provide a statement (and basis for believing) that the facility will comply with applicable regulations.*

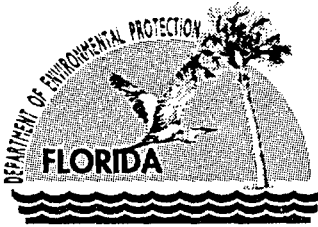
- ❖ U.S. Agri-Chemicals will continue to comply with the provisions of construction permit 1050051-009-AC. The proposed improvements will assure continued compliance with applicable regulations.

Sincerely,



Ronald L. Brunk, Manager  
Environmental Engineering Services

cc: S. Susick, USAC  
P. Vo, USAC  
P. Raval, Koogler & Assoc.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 30, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ronald L. Brunk, Manager  
Environmental Engineering  
US Agri-Chemicals  
3225 State Road 630 West  
Ft. Meade, FL 33841-9799

Re: Extension Request/DEP File No. 1050051-009-AC (PSD-FL-278)

Dear Mr. Brunk:

The Department reviewed your request dated July 16, 2002 to extend the expiration date of the construction permit from October 1, 2002 to December 31, 2004. The reasons given for the extension request are that "due to continuing downturn in our business we are unable at this time to commit the capital to finish the project by the permit expiration date."

Per Rule 62-4.080(3), F.A.C., an extension for a construction permit shall be granted if the applicant can demonstrate reasonable assurances that upon completion, the extended permit will comply with the standards and conditions required by applicable regulation.

We already have fairly extensive information about the facility and the control equipment. To complete the reasonable assurance requirement allowing extension of the permit, please submit the following information:

1. List the tasks to be performed to achieve "normal operating conditions" and the approximate dates for completing those tasks.
2. Identify additional production and emission testing that needs to be conducted and provide estimated dates for completion of those tasks.
3. Provide a statement (and basis for believing) that the facility will comply with applicable regulation.

According to Rule 62-4-080(3), the permit will remain in effect until the Department takes final action. Permit applicants are advised that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If you have any questions regarding this matter, please call me at 850/921-9528.

Sincerely,

Syed Arif, P.E. II  
New Source Review Section

cc: Jerry Kissell, DEP SWD

"More Protection, Less Process"

Printed on recycled paper.

**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.
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1. Article Addressed to:

Mr. Ronald L. Brunk  
 Manager  
 Environmental Engineering  
 US Agri-Chemicals  
 3225 State Road 630 West  
 Ft. Meade, FL 33841-9799

2. Ar

PS F

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

*Postel* *7/12/02*

C. Signature

*X U Wash*

Agent

Addressee

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

102595-00-M-0952

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

7001 0320 0001 3692 8253

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Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
<b>Total Postage &amp; Fees</b>	<b>\$</b>	

Sent To  
**Ronald L. Brunk**  
 Street, Apt. No.,  
 or P.O. No. **3225 State Road 630 W.**  
 City, State, ZIP+4  
**Ft. Meade, FL 33841-9799**

PS Form 3800, January 2001 See Reverse for Instructions

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



A Sinochem Company

July 16, 2002

RECEIVED

JUL 18 2002

BUREAU OF AIR REGULATION

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

RE: **DEP File No. 1050051-009-AC**  
**Permit No. PSD-FL-278**

Dear Sir:

U.S. Agri-Chemicals Corp. would like to extend this construction permit as allowed under Section II, Condition 5. We would like the extension through 12/31/04. Since the issuance of this permit, we have expended significant funds to begin reaching the goal of increased production from our phos acid facility. The attached memo outlines these expenditures. We are continuing our efforts to reach the goals outlined in our permit but due to the continuing downturn in our business we are unable at this time to commit the capital to finish the project by the permit expiration date.

Thank you for your consideration of this request.

Sincerely,

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

Ronald L. Brunk, Manager  
Environmental Engineering



# Memorandum

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**To:** Jerry Girardin  
**CC:** Jeff Barber  
**From:** Mark Ingram  
**Date:** 7/11/02  
**Re:** Expenditures For PAD Permit (TPD&TPH Limits)

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Since 02/06/01

1. Increased catalyst to SAD Plant 2 (05/02)	Catalyst	\$234,060.00
	Installation	76,471.12
	Disposal (est.)	12,000.00
	<b>TOTAL</b>	<b>\$322,531.12</b>
2. Booster Pump upgrade for Old Gyp Stack extension and increased gypsum disposal:		
	Booster Pumps	\$ 130,000.00
	Seal Water Pump	5,000.00
	Installation	10,000.00
	<b>TOTAL</b>	<b>\$145,000.00</b>
3. New technology investments (EM600) Evaporator Area:		
	EM-600	\$ 96,000.00
	Installation	20,000.00
	<b>TOTAL</b>	<b>\$116,000.00</b>
4. Grand Total Including all the above:		<b>\$583,531.12</b>



**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, FL 33841-9799

2. Ar

PS F

**COMPLETE THIS SECTION ON DELIVERY**

- A. Received by (Please Print Clearly) *Patricia* B. Date of Delivery *7/18/02*
- C. Signature *U Wash*  Agent  
 Addressee
- 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

02595-00-M-0952

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

**OFFICIAL USE**

7001 0320 0000 1000 2692 8529

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

Postmark  
Here

Sent To  
 Ronald L. Brunk  
 Street, Apt. No.,  
 or P.O. No. 3225 State Road 630 W.  
 City, State, ZIP+4  
 Ft. Meade, FL 33841-9799

PS Form 3800, January 2001

See Reverse for Instructions

**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:

Ronald L. Brunk, Manager  
 Environmental Engineering  
 US Agri-Chemicals  
 3225 State Road 630 W  
 Ft. Meade, FL 33841-9799

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature

X *R. Wash*

Agent  
 Addressee

D. Is delivery address different from item 1? If YES, enter delivery address below:

Yes  
 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 7001 0320 0001 3692 7386

PS Form 3811, July 1999

Domestic Return Receipt

102595-00-M-0952

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

**OFFICIAL USE**

7386 3692 0001 0320 7001

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

Postmark  
 Here

Sent To  
 Ronald L. Brunk  
 Street, Apt. No.,  
 or PO Box No. 3225 State Road 630 W.  
 City, State, ZIP+4  
 Ft. Meade, FL 33841-9799

PS Form 3800, January 2001

See Reverse for Instructions

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. 1050051-009-AC  
PSD-FL-278

Enclosed is the FINAL Permit Number PSD-FL-278 for increasing the production rates of sulfuric acid and phosphoric acid plants at the existing Ft. Meade facility in 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 2/6/01 to the person(s) listed:

Phong T. Vo, USAC\*  
Gregg Worley, EPA  
John Bunyai, NPS  
Jerry Kissell, SWD  
Jerry Campbell, HCEPC  
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.

Charlotte Hayes 2/6/01  
(Clerk) (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. Phong T. Vo  
 Gen. Mgr. of Eng. & Tech  
 Services  
 US Agri-Chemicals Corp.  
 3225 State Rd. 630 West  
 Ft. Meade, FL 33841

2. Article Number (Copy from service label)

7099 3400 0000 1449 4000

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

B. Date of Delivery

2-8-01

C. Signature

X *Phong T. Vo*

Agent

Addressee

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

7099 3400 0000 1449 4000

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

Article Sent To: *Phong T. Vo*

Postage	\$	<i>US Agri</i> Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Name (Please Print Clearly) (to be completed by mailer): *Phong T. Vo*

Street, Apt. No., or PO Box No.: *3225 State Rd 630 W*

City, State, ZIP+4: *Ft Meade FL 33840*

PS Form 3800, July 1999 See Reverse for Instructions

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. 1050051-009-AC  
PSD-FL-278

Enclosed is the FINAL Permit Number PSD-FL-278 for increasing the production rates of sulfuric acid and phosphoric acid plants at the existing Ft. Meade facility in 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 2/6/01 to the person(s) listed:

Phong T. Vo, USAC\*  
Gregg Worley, EPA  
John Bunyak, NPS  
Jerry Kissell, SWD  
Jerry Campbell, HCEPC  
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.

Charlatta Hays 2/6/01  
(Clerk) (Date)

- 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  
 Gen. Mgr. of Eng. & Tech  
 Services  
 US Agri-Chemicals Corp.  
 3225 State Rd. 630 West  
 Ft. Meade, FL 33841

2. Article Number (Copy from service label)

99 3400 0000 1449 4000

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

C. Signature

X *Phong T. Vo*  Agent  Addressee

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

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

Article Sent To:

*Phong T. Vo*

Postage \$

Certified Fee

Return Receipt Fee  
 (Endorsement Required)

Restricted Delivery Fee  
 (Endorsement Required)

Total Postage & Fees \$

*USA*

Postmark  
 Here

Name (Please Print Clearly) (to be completed by mailer)

*Phong T. Vo*

Street, Apt. No., or P.O. Box No.

*3225 State Rd 630 W*

City, State, Zip+4

*Ft Meade FL 33840*

PS Form 3800, July 1999

See Reverse for Instructions

7099 3400 0000 1449 4000 6602

## FINAL DETERMINATION

U.S. Agri-Chemicals Corporation

Permit No. 1050051-009-AC, PSD-FL-278

Ft. Meade Chemical Plant

An Intent to Issue an air construction permit to U.S. Agri-Chemicals (USAC) Corp. to increase the sulfuric acid and phosphoric acid production capability within the complex in Polk County, was distributed on November 1, 2000. The Notice of Intent was published in the Lakeland Ledger on December 21, 2000. Copies of the draft construction permit were available for public inspection at the Department offices in Tampa and Tallahassee.

Comments from the U.S. Fish and Wildlife were received and addressed during the application review period. No additional comments were received during the public comment period following issuance of the Draft Permit.

The only comment during the 30-day public comment period was from EPA. The comment is as follows:

*In its letter dated December 15, 2000, EPA comments that although no ambient air quality standard or PSD increment exists for F, the applicant must still address the requirement for pre-construction monitoring of F. This is in direct accordance with Florida Rule 62-212-400(5)(f). A de minimis concentration has been specified for F (see Table C-3 of EPA's New Source Review Workshop Manual) above which pre-construction monitoring would typically be required. The applicant needs to model the proposed increase in F emissions and compare the predicted impact to the de minimis level to determine whether or not pre-construction monitoring will be required. Also the applicant must address the additional impacts on soils, vegetation, wildlife, and visibility with respect to F.*

Department's response:

The Department has not specified an ambient monitoring method for fluorides. Also the Department does not have assessment techniques to make quantitative predictions of additional fluoride impacts on soils, vegetation, wildlife, and visibility.

The present project is an increase in the production of phosphoric acid. The monitoring data submitted by USAC indicate 75 percent of the fluoride lab results below detection level. The monitoring data was collected from 1996 onwards in conjunction with their Gyp Stack expansion. As the current ambient fluoride concentration levels are mostly below detection levels and as actual emissions will likely remain unchanged, no increase in impacts is likely.

The Department will require additional ambient monitoring of fluorides in order to assess the impacts from this modification. The applicant and its consultant have agreed to provide one year of data and consequently an additional specific condition is being

added to the permit requiring collection of data. The new specific condition 23 will read as follows:

“The permittee shall submit for a minimum period of one year additional ambient fluorides monitoring data. The samples collection shall follow the protocol as described in Koogler & Associate’s letter of January 26, 2001. The data gathering shall begin from the initial performance test and shall include additional twelve monthly data points. The last data shall be collected at the time of the first annual compliance test. Emission units 005 and 020 shall be operating at permitted capacity concurrently during the initial performance test and the first annual compliance test. A total of a minimum of fourteen (14) data points shall be submitted to the Bureau of Air Regulation.”

The final action of the Department is to issue the permit with the change noted above.





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

## PERMITTEE:

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

<b>File No.</b>	1050051-009-AC
<b>Permit No.</b>	PSD-FL-278
<b>SIC No.</b>	2874
<b>Project:</b>	Ft. Meade Chemical Plant
<b>Expires:</b>	October 1, 2002

## Authorized Representative:

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

## PROJECT AND LOCATION:

Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. 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

"More Protection, Less Process"

Printed on recycled paper.

**SECTION I. FACILITY INFORMATION**

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**FACILITY DESCRIPTION**

The Ft. Meade Chemical Plant is an agricultural chemicals manufacturing facility. Phosphate rock is reacted with sulfuric acid (purchased or produced on-site) to make phosphoric acid. The phosphoric acid is further processed into monoammonium phosphate (MAP) and diammonium phosphate (DAP).

This permit is issued to allow an increase in the production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, an increase in the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm.

**REGULATORY CLASSIFICATION**

The 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 sulfur dioxide and nitrogen oxides.

**PERMIT SCHEDULE:**

- 10-18-1999: Date of Receipt of Application
- 08-29-2000: Application deemed complete
- 11-01-2000: Intent issued

**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 10-18-1999
- Department letters dated 11-03-1999, 03-03-2000, 07-20-2000 and 07-21-2000
- Applicant letters dated 02-02-2000, 06-23-2000 and 08-29-2000
- Technical Evaluation and Preliminary Determination dated 10-31-2000
- Best Available Control Technology determination (issued concurrently with permit)
- USEPA's letter dated 12-15-2000
- Koogler & Associates letters dated 01-17-2001 and 01-26-2001

**SECTION II. EMISSION UNIT(S) ADMINISTRATIVE REQUIREMENTS**

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1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection, Southwest District Office located at 3804 Coconut Palm Drive, Tampa, Florida 33619, and phone number (813) 744-6100. All applications for permits to construct or modify an emission unit(s) subject to the Prevention of Significant Deterioration (PSD) should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blirstone Road, Tallahassee, Florida 32399-2400 and phone number (850)488-0114.
2. General Conditions: The owner and operator are 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. Forms and Application Procedures: 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. **[Rule 62-210.900, F.A.C.]**
5. Expiration: This air construction permit shall expire on **October 1, 2002**. **[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 permitting authority 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. Applicable Regulations: The facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-204; 62-210; 62-212, 62-213, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300, F.A.C.]**

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

---

**COMMON CONDITIONS: 40 CFR 60 - NEW SOURCE PERFORMANCE STANDARDS**

This permit addresses the following emission units.

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
016	Sulfuric Acid Plant No. 1
017	Sulfuric Acid Plant No. 2
005	Phosphoric Acid A Train
020	Phosphoric Acid B Train
021	Phosphoric Acid Tank Farm

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 Phosphoric Acid Trains A and B are subject to the applicable requirements of the New Source Performance Standards (NSPS) under 40 CFR 60 Subpart T, Standards of Performance for Wet-Process Phosphoric Acid Plants and National Emission Standards for Hazardous Pollutants (NESHAPs) under 40 CFR 63 Subpart AA, for Phosphoric Acid Plants.

The Phosphoric Acid Tank Farm is not subject to NSPS (40 CFR 60 Subpart T) or NESHAPs (40 CFR 63 Subpart AA).

The Sulfuric Acid Plant Nos. 1 and 2 are subject to the applicable requirements of the New Source Performance Standards (NSPS) under 40 CFR 60 Subpart H, Standards of Performance for Sulfuric Acid Plants.

**SPECIFIC CONDITIONS:**

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

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
016	Sulfuric Acid Plant No. 1
017	Sulfuric Acid Plant No. 2
005	Phosphoric Acid A Train
020	Phosphoric Acid B Train
021	Phosphoric Acid Tank Farm

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

---

1. Unless otherwise indicated, the construction and operation of the subject agricultural chemicals production facilities 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 Wet-Process Phosphoric Acid Plants, Subpart T and for Sulfuric Acid Plants, Subpart H; and, 40 CFR 63 Subpart AA, for phosphoric acid plants, as applicable. [Rule 62-204.800 F.A.C.]
3. The maximum operation rates shall not exceed:
  - a. Sulfuric Acid Plant Nos. 1 and 2, each - 3000 tpd 100% H<sub>2</sub>SO<sub>4</sub>;
  - b. Phosphoric Acid Trains A and B, each - 50 tph P<sub>2</sub>O<sub>5</sub> input, 30-day rolling average, and 55 tph maximum. Maximum annual rate shall not exceed 438,000 tons P<sub>2</sub>O<sub>5</sub> input.
  - c. Phosphoric Acid Tank Farm - 100 tph P<sub>2</sub>O<sub>5</sub> input, 30-day rolling average, and 110 tph maximum. Maximum annual rate shall not exceed 876,000 tons P<sub>2</sub>O<sub>5</sub> input.[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
4. The subject emission units are allowed to operate continuously (8760 hours/year).  
[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
5. Emissions of sulfur dioxide from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 3.5 lb/ton 100% H<sub>2</sub>SO<sub>4</sub>, averaged over three hours, and 1916 tpy. [Rule 62-212.400, F.A.C.]
6. Emissions of sulfuric acid mist from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 0.12 lb/ton 100% H<sub>2</sub>SO<sub>4</sub> and 65.7 tpy. [Rule 62-212.400, F.A.C.]
7. Emissions of nitrogen oxides from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 0.12 lb/ton 100% H<sub>2</sub>SO<sub>4</sub> and 65.7 tpy. [Rule 62-212.400, F.A.C.]
8. Emissions of total fluorides from the Phosphoric Acid Trains A and B each, shall not exceed 0.012 lb/ton P<sub>2</sub>O<sub>5</sub> input and 2.63 tpy. [Rule 62-212400, F.A.C.]
9. Emissions of total fluorides from the Phosphoric Acid Tank Farm, shall not exceed 1.0 lb/hr and 4.38 tpy. [Rule 62-210.200, F.A.C.]
10. Visible emissions shall not exceed 10 percent opacity from the sulfuric acid plants.  
[Rule 62-212.400, F.A.C.]
11. The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across each phosphoric acid plant 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 60.203]
12. In order to minimize excess emissions during startup/shutdown/malfunction these emissions units shall adhere to best operational practices. The provisions of the Memorandum of Understanding issued by the Department, are hereby added to this permit as Appendix A and shall be added to the Title V permit. [Rule 62-210.700, F.A.C., 40 CFR 60.7]

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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13. A continuous emissions monitoring system (CEMS) for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained in accordance with 40 CFR 60.84 (1999 version).
14. 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 30 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. **[Rule 62-297.310, F.A.C.]**
15. 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.]**
16. The procedures for the initial compliance test shall be in accordance with EPA Reference Methods 1, 2, 3, 4, 6C, 7E, 8, 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(7)(c), F.A.C.]**
17. 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 62-4.070(3), F.A.C.]**
18. The permittee shall install, calibrate, maintain, and operate monitoring devices which can be used to determine the mass flow of phosphorus-bearing feed material to the phosphoric acid processes. The monitoring devices shall have an accuracy of  $\pm 5$  percent over the operating range. The 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 60.203(a), and then by proceeding according to 40 CFR 60.204(b)(3) **[Rule 62-204.800, F.A.C.]**
19. 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.]**
20. 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.]**
21. 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

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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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.]
  - The down time on the Phosphoric Acid Tank Farm scrubber, when the Tank Farm is operating, may exceed 2 hours in a 24-hour period for maintenance purposes only.
22. The permittee shall submit an Annual Operating Report using DEP Form 62-210.900(4) 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.]
23. The permittee shall submit for a minimum period of one year additional ambient fluorides monitoring data. The samples collection shall follow the protocol as described in Koogler & Associates letter of January 26, 2001. The data gathering shall begin from the initial performance test and shall include additional twelve monthly data points. The last data shall be collected at the time of the first annual compliance test. Emission units 005 and 020 shall be operating at permitted capacity concurrently during the initial performance test and the first annual compliance test. A total of a minimum of fourteen (14) data points shall be submitted to the Bureau of Air Regulation. [Rule 62-212.400(5)(f), F.A.C.]

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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Ft. Meade Chemical Plant  
US Agri-Chemicals Corporation  
PSD-FL-278 / 1050051-009-AC  
Ft. Meade, Polk County

The project proposed by US Agri-Chemicals Corporation will increase the production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and will increase the processing rate of the Phosphoric Acid Tank Farm.

The proposed modification will result in a significant increase in emissions of sulfur dioxide ( $SO_2$ ), sulfuric acid mist (SAM), nitrogen oxides ( $NO_x$ ) 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.

**DATE OF RECEIPT OF COMPLETE BACT APPLICATION:**

August 29, 2000

**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 impacts, and other costs, determines what 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 and 63 - 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.



**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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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 this facility can 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 be classified as indicated below:

- *Fluorides* (HF, SiF<sub>4</sub>). Controlled generally by scrubbing with pond water.
- *Particulate Matter* (PM, PM<sub>10</sub>). Controlled generally by wet scrubbing or filtration.
- *Combustion Products* (SO<sub>2</sub>, NO<sub>x</sub>, 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 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, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, 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.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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**BACT LIMITS PROPOSED BY APPLICANT:**

<b>POLLUTANT</b>	<b>EMISSION UNIT</b>	<b>EMISSION LIMIT</b>	<b>CONTROL TECHNOLOGY</b>
SO <sub>2</sub>	Sulfuric Acid Plant Nos. 1 and 2	3.5 lb/ton H <sub>2</sub> SO <sub>4</sub>	Double Absorption Process
SAM	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Fiber Mist Eliminators
NO <sub>x</sub>	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Good Combustion Practice
F	Phosphoric Acid Trains A and B	0.012 lb/ton P <sub>2</sub> O <sub>5</sub> input	Wet scrubbers using pond water
F	Phos. Acid Tank Farm	1.0 lb/hr	Wet scrubbers using pond water

The applicant has proposed to use the existing double absorption process and improved process parameters to achieve the proposed limits for the sulfuric acid plants. The existing scrubbing systems are proposed as BACT for the phosphoric acid trains and the phosphoric acid tank farm.

**BACT POLLUTANT ANALYSIS**

The applicant will achieve the proposed emissions limits by improving the sulfur dioxide conversion of the traditional double absorption plant. The improvement will be accomplished by an increase in the catalyst loading. The emission limit of 3.5 pounds per ton of acid averaged over three hours was recently imposed on the new sulfuric acid plant at Farmland Hydro, L.P.

Control options involving production of by-products or wastes have been rejected as BACT. There is no indication that add-on control methods are competitive with process improvements that result in production of additional sulfuric acid. Recovery of sulfuric acid mist is an economic necessity as well as an environmental requirement. High efficiency mist eliminators are considered BACT for sulfuric acid mist.

The Department agrees with the applicant that the sulfur burning process utilized in the sulfuric acid plant inherently produces low NO<sub>x</sub> emissions, and is considered BACT for NO<sub>x</sub>.

Fluoride-containing gases, including hydrogen fluoride (HF), are evolved during the chemical reactions from the phosphoric acid process. Scrubbing the gas stream with pond water removes most of the fluoride evolved from the process.

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. Existing scrubber and process cooling pond water.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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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, the main considerations being the cost of installing the pond and equipment and the cost of operating a lime treatment unit. Costs for Option 2, based on data for a similar project amounted to almost \$40,000 per ton of fluorides removed. FDEP considers this figure sufficiently high to rule out Option 2. However, it should be noted that the low magnitude of fluoride emissions relative to their potential environmental impact justifies the consideration of higher fluoride cost effectiveness figures relative to the high tonnage pollutants such as sulfur dioxide and nitrogen oxides.

For the proposed project, Option 3, is determined by the top-down approach as the basis for the fluoride BACT emission limit.

The BACT limits tabulated above for the emission units evaluated are based on the recent compliance test results for the units between 1995 - 1999. These limits have been demonstrated to be achievable based on the historical test data for the emission units. The Department has concluded that the units can continue to achieve the same historically low emissions without the need for modifications.

**BACT DETERMINATION BY THE DEPARTMENT:**

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

<b>POLLUTANT</b>	<b>EMISSION UNIT</b>	<b>LIMIT BASIS</b>	<b>CONTROL TECHNOLOGY</b>
SO <sub>2</sub>	Sulfuric Acid Plant Nos. 1 and 2	3.5 lb/ton H <sub>2</sub> SO <sub>4</sub>	Double Absorption Process
SAM	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Fiber Mist Eliminators
NO <sub>x</sub>	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Good Combustion Practice
F	Phosphoric Acid Trains A and B	0.012 lb/ton P <sub>2</sub> O <sub>5</sub> input	Wet scrubbers using pond water
F	Phos. Acid Tank Farm	1.0 lb/hr	Wet scrubbers using pond water

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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These limits have been demonstrated to be achievable based on the historical test data for the emission units. SO<sub>2</sub> and F are the key parameters. The emission limits established for those are the lowest in the fertilizer industry.

**COMPLIANCE**

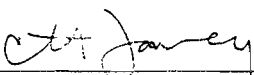
Compliance with the sulfur dioxide, sulfuric acid mist, nitrogen oxides and fluoride limits shall be demonstrated using EPA Reference Methods 1, 2, 3, 4, 6C, 7E, 8, 9 and 13A or 13B as appropriate, and contained in 40 CFR 60, Appendix A.

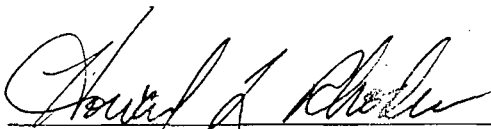
**DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:**

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

2/5/01  
\_\_\_\_\_  
Date:

2/5/01  
\_\_\_\_\_  
Date:

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

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- 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]

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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 *[Signature]*

THRU: Al Linero *[Signature]*

FROM: Syed Arif *[Signature]* 2/5

DATE: February 5, 2001

SUBJECT: U.S. Agri-Chemicals Corporation (USAC)  
DEP File No. 1050051-009-AC; PSD-FL-278

BAR

Attached for your approval and signature is the final construction permit to increase production at the USAC facility in Ft. Meade.

The Sulfuric Acid Plants (No. 1 & 2) as well as A and B Phosphoric Acid Plants will increase production capability. A proportional increase will result in the processing rate of the Phosphoric Acid Tank Farm.

The double absorption process and mist eliminators will control sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants, respectively. The BACT limits established for sulfur dioxide and sulfuric acid mist are 3.5 lb/ton H<sub>2</sub>SO<sub>4</sub> and 0.12 lb/ton H<sub>2</sub>SO<sub>4</sub>, respectively. Controls for fluoride emissions consist of scrubbers using process pond water. The BACT determination concluded that the existing control equipment meets BACT requirements. The fluoride BACT limits for the phosphoric acid plants were established at 0.012 lb/ton P<sub>2</sub>O<sub>5</sub> input.

There was a comment from EPA during the public notice period. They want modeling of fluoride to determine whether predicted impacts from the proposed increase in fluoride emissions would be greater than the preconstruction monitoring de minimus impact level. They also want at least a qualitative assessment of the fluoride emissions on soils, vegetation, wildlife, and visibility.

We recognize the requirement to perform this modeling and the qualitative assessment. However, even if the de minimus level is exceeded there are no state or EPA-specified monitoring methods for fluoride.

The Company has agreed to perform ambient fluorides monitoring for a period of one year to assess the qualitative impact of this modification. The monitor was installed in conjunction with USAC's Gyp Stack expansion.

Day 90 is February 13, 2001. Today is day 82 of 90.

I recommend your approval and signature.

AAL/sa

# AFFIDAVIT OF PUBLICATION

## THE LEDGER

### Lakeland, Polk County, Florida

Case No .....

STATE OF FLORIDA)  
COUNTY OF POLK)

Before the undersigned authority personally appeared Sandra Beeler, who on oath says that she is the Inside Sales Supervisor of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

Public Notice

in the matter of DEP File No. 1050051-009-AC (PSD)-FL-278)

in the

Court, was published in said newspaper in the issues of

12-21; 2000

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.

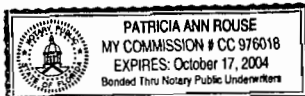
Signed Sandra Beeler  
Sandra Beeler  
Inside Sales Supervisor  
Who is personally known to me.

Sworn to and subscribed before me this 26<sup>TH</sup>

day of DECEMBER A.D. 2000

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. 1050051-009-AC (PSD)-FL-278)  
Fl. Meade Chemical Plant  
US Agri-Chemicals Corporation  
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to US Agri-Chemicals Corporation to increase the sulfuric acid and phosphoric acid production capability within the complex and to increase the processing rate of the Phosphoric Acid Tank Farm at its Fl. Meade Chemical Plant. The plant is located at 3225 State Rd. 630 West, Fl. Meade, Polk County.

A Best Available Control Technology (BACT) determination was required for sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), nitrogen oxides (NO<sub>x</sub>) and fluorides (F) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21. Prevention of Significant Deterioration (PSD), the applicant's name and address are US Agri-Chemicals Corporation, 3225 State Rd. 630 West, Fl. Meade, Florida 33841.

The physical production capability of the existing Sulfuric Acid Plants Nos. 1 and 2 will be increased to 3000 tons per day to match the previously-permitted production rates. The production rate of the existing Phosphoric Acid Plants A and B will be increased from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each. A proportional increase will result in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively.

The BACT emission limits for SO<sub>2</sub> and SAM are proposed to be 3.5 and 0.12 pounds per ton of sulfuric acid respectively. These are the lowest values to-date in the fertilizer industry. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. The BACT fluoride emission limit is proposed to be 0.012 pounds per ton of P<sub>2</sub>O<sub>5</sub> input. This is equal to the lowest value to-date.

An air quality impact analysis for sulfur dioxide and nitrogen oxides 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 NO<sub>2</sub> impacts were insignificant so no PSD Class II Increment consumption analysis was required for NO<sub>2</sub>. The maximum predicted SO<sub>2</sub> PSD Class II increments in the vicinity of the project consumed by all sources in the area, including this project, will be as follows:

	Increment Consumed (ug/m <sup>3</sup> )	Allowable Increment (ug/m <sup>3</sup> )	Increment Consumed (Percent)
SO <sub>2</sub>			
3-hour	250	512	51
24-hour	63	91	69
Annual	0	20	0

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 on 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 32399-2600. 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 120.549 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 General Counsel of the Department of 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 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 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 action taken by it in this notice. Persons whose substantial interests will be affected by any such 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:

Department of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida 32301 Telephone: 850/488-0114 Fax: 850/922-6979	Department of Environmental Protection Southwest District Office 3804 Coconut Palm Drive Tampa, Florida 33619 Telephone: 815-744-6100 Fax: 813/744-6458
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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.

E869 - 12-21; 2000

**BUREAU OF AIR REGULATION**



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1. Article Addressed to:  
 Mr. Phong T. Vo, Gen. Mgr.  
 Engineering and Technical Services  
 U. S. Agri-Chemical Corp  
 3225 State Rd. 630 West  
 Ft. Meade, FL 33841

2. Article Number (Copy from service label)  
 7099 3400 0000 1453 0142

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 11-05-00

C. Signature  
 X *Phong T. Vo*  Agent  
 Addressee

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

7099 3400 0000 1453 0142

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

Article Sent To:  
 Mr. Phong T. Vo, Gen. Mgr.

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$</b>

US Agri-Chem.  
 Postmark Here

Name (Please Print Clearly) (to be completed by mailer)  
 Mr. Phong T. Vo, Gen. Mgr.  
 Street, Apt. No., or PO Box No.  
 3225 State Rd 630 West  
 City, State, ZIP+4  
 Ft. Meade, FL 33841



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

March 3, 2000

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Steven J. Susick, P.E.  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric Acid Plants No. 1 and 2

Dear Mr. Susick:

The Department has received your response to our November 3, 1999 incompleteness letter to you regarding an air construction permit for modification to the existing Sulfuric Acid Plants No. 1 and 2. The response was received on February 2, 2000. In order to expedite the application, we need the additional information listed below:

1. 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. Please resubmit the response including the certification as required by Rule 62-4.050(3), F.A.C.
2. Please resubmit the appropriate pages of the application to reflect the sulfuric acid mist (SAM) emissions of 0.12 lb/ton. Also, redo the table for net emissions increase based on the new limit for SAM. The original application was based on 0.15 lb/ton.
3. Please show all the calculations for the net emissions increase for SO<sub>2</sub> and NO<sub>x</sub> based on the data submitted in the response letter.
4. The actual emissions for SO<sub>2</sub> and SAM submitted with the response for the last five years indicate that the stack testing was probably conducted under optimum conditions. The low emissions are probably not a true indicator of the day to day emissions from the plants. Please submit an analysis of SO<sub>2</sub> emissions based on the CEM readings. The analysis should be done for the years 1998 and 1999, and should include monthly range of SO<sub>2</sub> emissions for both plants during those two years.

*"More Protection, Less Process"*

*Printed on recycled paper.*

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- Complete items 3, 4a, and 4b.
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- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
 Steven G. Susick, PE  
 US Agri-Chem  
 3225 State Rd - 630 West  
 Ft. Meade, FL  
 33841-9799

4a. Article Number  
 Z 031 392 001

4b. Service Type  
 Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery  
 11-11-99 CR

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Addressee or Agent)

X *[Signature]*

PS Form 3811, December 1994

102595-98-B-0229

Domestic Return Receipt

Thank you for using Return Receipt Service.

Z 031 392 001

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

PS Form 3800, April 1995

Sent to *Steve Susick*

Street & Number  
*US Agri Chem*

Post Office, State, & ZIP Code  
*Ft. Meade FL*

Postage \$

Certified Fee

Special Delivery Fee

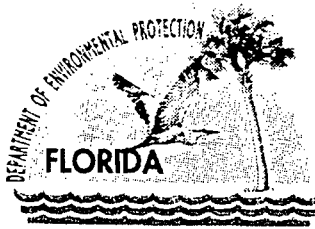
Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered

Return Receipt Showing to Whom, Date, & Addressee's Address

TOTAL Postage & Fees \$

Postmark or Date  
 1050051-009-AC 11-4-99  
 PSD-FI-278



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

November 3, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Steven J. Susick, P.E.  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841-9799

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric Acid Plants No. 1 and 2

Dear Mr. Susick:

We received the referenced application on October 18, 1999. We are providing our comments based on the initial review of the application. Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

We appreciate that the plants were previously permitted to increase production to 3,000 tons per day of sulfuric acid. Apparently they were not actually modified to achieve that rate. Please provide estimates of past actual annual production and maximum daily production. Please provide more specific information regarding the type of catalyst to be used and the approximate amounts to be introduced into the various converters.

We did locate the application submitted in 1984. It is helpful but obviously not up to date. Please note that the background information has changed substantially with respect to the impacts of industry on the surrounding PSD Class II areas and the nearest PSD Class I (Chassahowitzka) area. Analyses need to be performed that demonstrate that the project will not cause or contribute to violations of any ambient air quality standards or increments. The techniques by which these demonstrations are made have changed substantially. The latest approved EPA and National Park Service methodologies need to be employed.

We appreciate your plan to comply with the SO<sub>2</sub> emissions rates equal to the determination made for Farmland. We still require that your proposal be based on an analysis of all the methods available for reducing SO<sub>2</sub> emissions and that more stringent controls be excluded on the basis of cost and other impacts. Therefore we need more details regarding the technologies that were rejected and the rationale for their rejection.

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

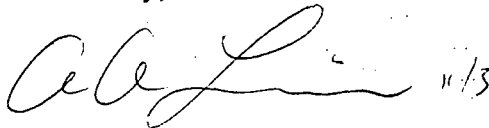
*Printed on recycled paper.*

Mr. Steven J. Susick  
November 3, 1999  
Page 2 of 2

If the value of 3.5 lb/ton of sulfuric acid was a Lowest Achievable Emission Rate (LAER), we could agree that it would not be necessary to conduct further cost analysis. However LAER would be on the order of 1-2 lb/ton so we need additional analysis. We also need a similar analysis for sulfuric acid mist (SAM) emissions. Please send a table containing results of annual SO<sub>2</sub> and SAM tests conducted during the past five years.

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. will be 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.

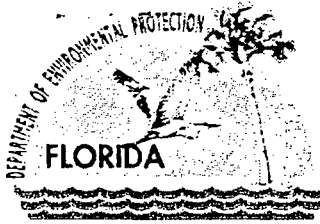
Sincerely,

Handwritten signature of A. A. Linero, P.E., Administrator, Bureau of Air Regulation. The signature is in cursive and includes the date 11/3.

A. A. Linero, P.E., Administrator  
Bureau of Air Regulation

AAL/sa

Cc: Bill Thomas, DEP SWD  
Gregg Worley, EPA Region IV  
John Bunyak, NPS



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

July 21, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: EP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric and Phosphoric Acid Plant Production Increases

Dear Mr. Vo:

This letter addresses the modeling information sent with your June 23, 2000 response to the Department's March 3, 2000 incompleteness letter to you regarding an air construction permit for the above referenced project. In order to expedite the application, we need the additional information listed below:

1. The modeling information supplied does not give the Department reasonable assurance that the Ambient Air Quality Standard (AAQS) for the SO<sub>2</sub> 24-hour averaging time will not be violated. At least five of the 24-hour AAQS modeling output files sent with this letter (AQS87S24.OUT, AQS89S24.OUT, AQS89G.OUT, AQS90G24.OUT, and AQS91G24.OUT with highest values of 260, 276, 256, 295, and 246 ug/m<sup>3</sup>, respectively) show highest values, which, when combined with a background concentration, are greater than the 260 ug/m<sup>3</sup> standard. No high second high values (HSH) were calculated with these modeling runs. HSH values should have been calculated since the highest-first high values are projected to be greater than the AAQS. The Department has performed some additional modeling which predicts HSH values greater than 260 ug/m<sup>3</sup>. The project is not permissible with the requested emission limits if it is predicted to significantly contribute to any projected exceedances of the HSH. Please provide detailed and appropriate modeling information that will give the Department reasonable assurance the 24-hour SO<sub>2</sub> AAQS will not be violated. Any additional modeling should include emissions from FPC Bartow, FPC Bayboro and FPC Higgins. These are sources within 100 km of the project, which have allowable emissions much greater than the corresponding 20-D emissions.

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.

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- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1.  Addressee's Address
- 2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Steven J. Susick, PE  
 General Manager, E+TS  
 US Agri-Chemicals Corp.  
 3225 State Road 630 West  
 Fort Meade, FL 33841

4a. Article Number

Z 031 391 875

4b. Service Type

- Registered
- Express Mail
- Return Receipt for Merchandise
- Certified
- Insured
- COD

7. Date of Delivery

3-8-00

8. Addressee's Address (Only if requested and fee is paid)

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *[Signature]*

102595-98-B-0229

Domestic Return Receipt

PS Form 3811, December 1994

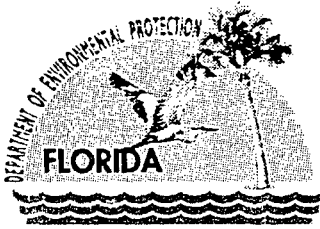
Thank you for using Return Receipt Service.

Z 031 391 875

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to		Steven Susick
Street & Number		US Agri Chemicals Corp.
Post Office, State, & ZIP Code		3225 State Road 630 W Fort Meade, FL
Postage	\$	33841
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Addressee's Address		
TOTAL Postage & Fees	\$	
Postmark or Date		3-3-00
		1050051-009-40
		PSD-FL-278

PS Form 3800, April 1995



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 20, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric and Phosphoric Acid Plant Production Increases

Dear Mr. Vo:

The Department has received your response to our incompleteness letter to you regarding an air construction permit for modification to the existing Sulfuric Acid Plants No. 1 and 2. The response was received on June 23, 2000. In response to our inquiry, you have decided to request an increase in the permitted phosphoric acid production rate of the existing plants. The Department will combine both the sulfuric and phosphoric acid plant production increases into one project. In order to expedite the application, we need the additional information listed below:

1. The application contains only a summary of fluoride stack test data. Please submit the detailed test reports for the 1998 and 1999 annual fluoride stack tests containing data on production rates, stack flows, scrubber conditions, etc. for each test run. Please redo Appendix A of the application by showing actual emissions in terms of lb F/ton  $P_2O_5$ . Also, include additional three years of stack test data summary, if available, for fluoride emissions.
2. Please state the reasons for asking 1.0 lb/hr F emission limit from the Tank Farm area. This emission limit is more than double the actual emissions average submitted with the application.
3. Please submit engineering design data for the venturi scrubbers currently utilized for fluoride control. The data should include at a minimum the design capability; the stated efficiency of the control equipment and the performance curves for the venturi scrubbers.
4. Please provide the cost evaluation of a cross-flow packed scrubber for fluorides control by itself. The cost effectiveness presented in the application is an incremental cost approach that inflated the cost figures.

*"More Protection, Less Process"*

*Printed on recycled paper.*



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1. Article Addressed to:

Mr. Phong T. Vo  
 General Manager, E&TS  
 U.S. Agrichemicals Corp.  
 3225 SR 630 West  
 Fort Meade, FL 33841

2. Article Number (Copy from service label)  
 Z 031 392 034

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

7-25-00

C. Signature

X *[Handwritten Signature]*

- Agent
- Addressee

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.

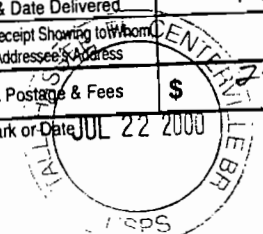
4. Restricted Delivery? (Extra Fee)  Yes

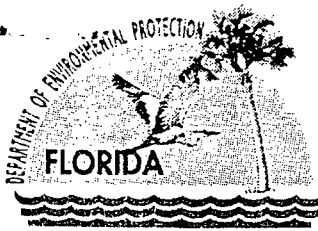
Z 031 392 034

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
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Sent to	
Mr. Phong T. Vo	
Street & Number	
3225 ST 630 West	
Post Office, State, & ZIP Code	
Bartow, FL 33841	
Postage	\$ 33
Certified Fee	140
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	125
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$ 298
Postmark or Date	JUL 22 2000

PS Form 3800, April 1995





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

## P.E. Certification Statement

**Permittee:**  
US Agri-Chemicals Corporation  
Ft. Meade Chemical Plant

**DEP File No.** 1050051-009-AC  
**Permit No.** PSD-FL-278

**Project type:** Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. An air quality impact analysis was required for sulfur dioxide and nitrogen oxides.

*I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

Syed Arif      10/31/00  
Syed Arif, P.E.      Date  
Registration Number: 51861

Department of Environmental Protection  
Bureau of Air Regulation  
New Source Review Section  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Phone (850) 488-0114  
Fax (850) 922-6979

"More Protection, Less Process"

**SENDER: COMPLETE THIS SECTION**

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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  
 Gen. Mgr., E&TS  
 U.S. Agri-Chemicals Corp.  
 3225 State Rd. 630 W.  
 Fort Meade, FL 33841

2. Article Number (Copy from service label)

Z 031 392 031

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 \_\_\_\_\_ 7-24-00

C. Signature  
 Phong T. Vo  Agent  
 Addressee

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

Z 031 392 031

US Postal Service  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to	<u>Mr. Phong T. Vo</u>
Street & Number	<u>3225 State Rd 630 West</u>
Post Office, State, & ZIP Code	<u>Fort Meade FL 33841</u>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<u>7/20/00</u> <u>U.S. Agri Chemicals</u>

PS Form 3800, April 1995



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

KA 173-00-02

January 26, 2001

**RECEIVED**

**JAN 29 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: Additional Information on Fluorides Monitoring  
U.S. Agri-Chemicals Corp.  
File No. 1050051-009-AC, PSD-FL-278

Dear Mr. Arif:

The following additional comments are submitted to satisfy FDEP/EPA review of the fluorides monitoring data submitted to you last week. As previously indicated, air dispersion modeling for fluorides was not necessary for the proposed project as actual ambient air concentration data for the plant is available.

The fluorides monitoring data submitted to FDEP is from an ambient monitor located inside USAC's northern property boundary (see attached map). The Regional Planning Council has required the ambient fluoride monitoring as a condition of the Gyp Stack expansion approval. The ongoing monitoring program will continue for several more years, in accordance with the conditions imposed by the Regional Planning Council. In this instance, the available ambient fluoride data facilitate an ambient air assessment for the proposed project.

The monitor is a model G2DT, dual filter tape unit from Research Appliance Company. Eight 3-hour samples (24-hour period) are collected once a month by a qualified lab technician. Pembroke Labs, which is certified by HRS and FDEP, analyzes the tape in accordance with NIOSH Method 212, using a pre-approved Quality Control Protocol.

The sampling results (see attached table) indicate the date of the sample, the sample weight and the corresponding ambient air fluoride concentration as a 24-hour average. For purposes of the current review, the tabulated ambient concentration level was compared with the 24-hour Ambient Reference Concentration (ARC) level of 6 micrograms per cubic meter, previously used as a guideline by the Department to determine adverse impacts of fluorides. It should be noted that all of the tabulated concentration levels are well below the ARC. It is our understanding that the FDEP no longer uses ARCs as part of a permit application review. However, this comparison is made herein specifically to satisfy EPA's concerns.

Mr. Syed Arif, P.E.  
Florida Department of  
Environmental Protection

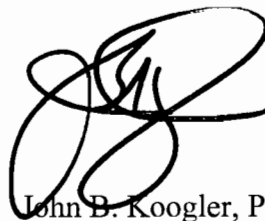
January 26, 2001

Regarding Class I area SO<sub>2</sub> modeling, the rationale used in the modeling was accepted for the proposed project by Ellen Porter and John Notar of the National Park Service.

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

A handwritten signature in black ink, appearing to be 'J. Koogler', written in a cursive style.

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

JBK:par  
Enc.

c: J. Girardin, USAC  
R. Brunk, USAC  
S. Kriv, EPA  
C. Heiladay

U.S. Agri-Chemicals  
Fluoride Monitoring Station



MAP Plant

Phosphoric  
Acid Plant

Phosphogypsum  
Stack

Fluoride  
Monitor

N

Phosphogypsum  
Stack

1 mile (approx)

**USAC Gyp Stack Expansion Ambient Gaseous Fluorides Monitoring**

**NOTES:**

1. BDL = Below Detection Level (5 ug or 2.1 ppb)
2. Florida DEP 24-hr No Threat Level is 6 ug/m<sup>3</sup>
3. Lab results and ambient concentrations are presented as a daily average.

sample date	lab result ug	concentration
		ug/m <sup>3</sup>
7/11/96	10.5	3.4
7/12/96	BDL	
7/13/96	BDL	
7/14/96	BDL	
7/15/96	5.5	1.8
7/16/96	BDL	
7/17/96	BDL	
7/18/96	BDL	
8/6/96	BDL	
8/7/96	BDL	
8/8/96	BDL	
8/9/96	BDL	
8/10/96	BDL	
8/11/96	BDL	
8/12/96	BDL	
8/13/96	BDL	
9/5/96	BDL	
9/6/96	BDL	
9/7/96	BDL	
9/8/96	BDL	
9/9/96	BDL	
9/10/96	BDL	
9/11/96	BDL	
9/12/96	BDL	
10/16/96	5.5	1.8
11/21/96	BDL	
12/17/96	BDL	
1/27/97	5.1	1.6
2/5/97	5.5	1.7
3/4/97	BDL	
4/20/97	BDL	
5/27/97	BDL	
6/3/97	5.4	1.7
7/18/97	5.7	1.7
8/6/97	BDL	
9/17/97	BDL	
10/9/97	BDL	
11/4/97	BDL	
12/1/97	BDL	
1/28/98	BDL	
2/12/98	BDL	

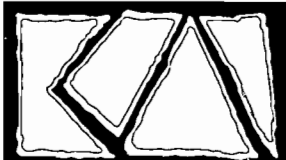
**USAC Gyp Stack Expansion Ambient Gaseous Fluorides Monitoring**

**NOTES:**

1. BDL = Below Detection Level (5 ug or 2.1 ppb)
2. Florida DEP 24-hr No Threat Level is 6 ug/m<sup>3</sup>
3. Lab results and ambient concentrations are presented as a daily average.

sample date	lab result ug	concentration
		ug/m <sup>3</sup>
3/13/98	5.4	1.7
4/2/98	BDL	
5/4/98	BDL	
6/22/98	BDL	
7/16/98	6.4	2.0
8/12/98	7.6	2.3
9/15/98	5.6	1.7
10/8/98	BDL	
11/17/98	BDL	
12/30/98	BDL	
1/27/99	BDL	
2/25/99	BDL	
3/10/99	BDL	
4/22/99	5.5	1.7
5/24/99	5.1	1.6
6/1/99	BDL	
7/14/99	5.4	1.7
8/26/99	BDL	
9/23/99	5.1	1.6
1/20/00	5	1.5
2/18/00	BDL	
3/14/00	BDL	
4/5/00	BDL	
4/6/00	BDL	
5/3/00	5.6	1.7
5/4/00	BDL	
6/14/00	BDL	
6/15/00	BDL	
7/13/00	BDL	
7/14/00	BDL	
8/21/00	BDL	
8/22/00	BDL	
9/18/00	5.1	1.6
9/19/00	BDL	
10/17/00	BDL	
10/18/00	BDL	
11/15/00	5.1	1.6
11/16/00	BDL	





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

KA 173-00-02

January 17, 2001

**RECEIVED**

**JAN 18 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: Response to EPA Comments  
U.S. Agri-Chemicals Corp.  
File No. 1050051-009-AC, PSD-FL-278

Dear Mr. Arif:

We have reviewed EPA's comments dated December 15, 2000, regarding the above referenced project. Our responses are in the order of the issues raised.

ITEM 1: Pre-construction Ambient Fluoride Monitoring

Regarding pre-construction fluorides monitoring, USAC does have some available data. Enclosed is the summary of the ambient fluorides monitoring data from 1996-present, collected in conjunction with USAC's Gyp Stack Expansion. It should be noted that on a daily basis, over 75 percent of the lab results indicate fluoride levels below detection level, and over 93 percent are within 10 percent of the detection level. All of the ambient concentration levels summarized are well below the 24-hr FDEP Reference Air Concentration level of 6 micrograms per cubic meter.

ITEM 2: Additional Fluoride Impacts

The potential fluoride emissions at the existing USAC facility will increase as a result of the proposed project. However, the actual fluoride emission increases are not expected to be significant. As the current ambient fluoride concentration levels are below detection levels and as actual emissions will likely remain unchanged, no adverse impacts are expected on soils, vegetation, wildlife and visibility.

ITEM 3: Class I Area PSD Modeling Protocol

Regarding Class I area SO<sub>2</sub> modeling, the rationale used in the modeling was discussed with Ellen Porter and John Notar of the National Park Service.

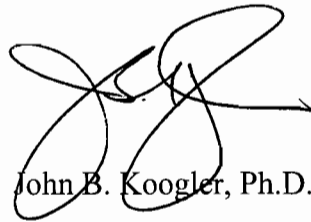
Mr. Syed Arif, P.E.  
Florida Department of  
Environmental Protection

January 17, 2001

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

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

JBK:par  
Enc.

c: J. Girardin, USAC  
R. Brunk, USAC  
*C. Holladay*  
*B. Thomas, SW Dist,*  
EDA  
NPS

## USAC Gyp Stack Expansion Ambient Gaseous Fluorides Monitoring

### NOTES:

1. BDL = Below Detection Level (5 ug or 2.1 ppb)
2. Florida DEP 24-hr No Threat Level is 6 ug/m<sup>3</sup>
3. Lab results and ambient concentrations are presented as a daily average.

sample date	lab result ug	concentration
		ug/m <sup>3</sup>
7/11/96	10.5	3.4
7/12/96	BDL	
7/13/96	BDL	
7/14/96	BDL	
7/15/96	5.5	1.8
7/16/96	BDL	
7/17/96	BDL	
7/18/96	BDL	
8/6/96	BDL	
8/7/96	BDL	
8/8/96	BDL	
8/9/96	BDL	
8/10/96	BDL	
8/11/96	BDL	
8/12/96	BDL	
8/13/96	BDL	
9/5/96	BDL	
9/6/96	BDL	
9/7/96	BDL	
9/8/96	BDL	
9/9/96	BDL	
9/10/96	BDL	
9/11/96	BDL	
9/12/96	BDL	
10/16/96	5.5	1.8
11/21/96	BDL	
12/17/96	BDL	
1/27/97	5.1	1.6
2/5/97	5.5	1.7
3/4/97	BDL	
4/20/97	BDL	
5/27/97	BDL	
6/3/97	5.4	1.7
7/18/97	5.7	1.7
8/6/97	BDL	
9/17/97	BDL	
10/9/97	BDL	
11/4/97	BDL	
12/1/97	BDL	
1/28/98	BDL	
2/12/98	BDL	

## USAC Gyp Stack Expansion Ambient Gaseous Fluorides Monitoring

NOTES:

1. BDL = Below Detection Level (5 ug or 2.1 ppb)
2. Florida DEP 24-hr No Threat Level is 6 ug/m<sup>3</sup>
3. Lab results and ambient concentrations are presented as a daily average.

sample date	lab result ug	concentration
		ug/m <sup>3</sup>
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8/12/98	7.6	2.3
9/15/98	5.6	1.7
10/8/98	BDL	
11/17/98	BDL	
12/30/98	BDL	
1/27/99	BDL	
2/25/99	BDL	
3/10/99	BDL	
4/22/99	5.5	1.7
5/24/99	5.1	1.6
6/1/99	BDL	
7/14/99	5.4	1.7
8/26/99	BDL	
9/23/99	5.1	1.6
1/20/00	5	1.5
2/18/00	BDL	
3/14/00	BDL	
4/5/00	BDL	
4/6/00	BDL	
5/3/00	5.6	1.7
5/4/00	BDL	
6/14/00	BDL	
6/15/00	BDL	
7/13/00	BDL	
7/14/00	BDL	
8/21/00	BDL	
8/22/00	BDL	
9/18/00	5.1	1.6
9/19/00	BDL	
10/17/00	BDL	
10/18/00	BDL	
11/15/00	5.1	1.6
11/16/00	BDL	

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

**US**  
**Agri-Chemicals**

A Sinochem Company

**RECEIVED**

**JAN 04 2001**

**BUREAU OF AIR REGULATION**

December 27, 2000

Mr. Al Linero  
Florida Department of  
Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, FL 32301

**RE: Affidavit of Publication**  
**DEP File No. 1050051-009-AC, PSD-FL-278**

Dear Sir:

Enclosed please find the Affidavit of Publication attesting to the publication of the Notice of Intent to Issue for the above listed project.

If you have any questions regarding this submittal, please contact me at (863) 285-8121 ext. 279.

Sincerely:



Ronald L. Brunk, Manager  
Environmental Engineering

xc: J. Girardin  
P. Raval, Koogler and Associates

*A. Arif*  
*C. Kothakota*  
*D. Thomas, SWD*  
EPA  
NPS









UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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

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DEC 22 2000

DEC 15 2000

BUREAU OF AIR REGULATION

4APT-ARB

Mr. A. A. Linero, P.E.  
Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

SUBJ: Prevention of Significant Deterioration (PSD) Preliminary Determination for US Agri-Chemicals Corporation located in Fort Meade (Polk County), Florida  
PSD-FL-278

Dear Mr. Linero:

Thank you for submitting the above referenced PSD preliminary determination (dated October 31, 2000) to the U.S. Environmental Protection Agency (EPA) for comments. The proposed project involves the increase in production capacities of Phosphoric Acid Trains A and B (from 44 to 50 tons per hour phosphorous pentoxide input each) and the Phosphoric Acid Plant Tank Farm (a proportional increase to accommodate the production capacity increases). The total emissions increase of sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist, nitrogen oxides, and fluorides (F) resulting from the proposed project are above the respective significance thresholds requiring PSD review.

Based on a review of the preliminary determination, EPA has the following comments:

1. Although no ambient air quality standard or PSD increment exists for F, the applicant must still address the requirement for pre-construction monitoring of F. This is in direct accordance with Florida Rule 62-212-400(5)(f). A *de minimis* concentration has been specified for F above which pre-construction monitoring could be required. The applicant needs to model the proposed increase in F emissions and compare the predicted impact to this *de minimis* level to determine whether or not pre-construction monitoring will be required. Also, the applicant must address the additional impacts on soils, vegetation, wildlife, and visibility with respect to F emissions.



2. For the purpose of simplification, the applicant limited the modeling analysis used to demonstrate compliance with the Class I SO<sub>2</sub> PSD increment to only those days when the predicted impact from the proposed project was greater than significant. Although EPA does not have issue with this rationale, it is strongly recommended that such rationale be presented to the Class I area federal land manager for approval.

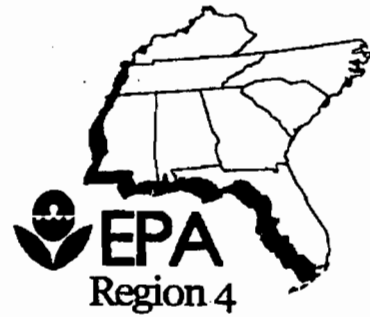
Thank you for the opportunity to comment on the US Agri-Chemicals preliminary determination. If you have any questions regarding these comments, please direct them to either Art Hofmeister at (404) 562-9115 or Jim Little at (404) 562-9118.

Sincerely,



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

cc: *S. Arif*  
*C. Holladay*  
*J. Koogler*  
*B. Thomas, SWD*  
*G. Spencer, Park Co.*  
*NPS*



facsimile TRANSMITTAL

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

RECEIVED

DEC 18 2000

BUREAU OF AIR REGULATION

To: Al Linero  
Florida DEP

Fax #: 850-922-6979

Subject: Comments Re: US Agri-Chemicals  
Preliminary Determination

From: Art Hofmeister Phone #: 404-562-9115

Date: Dec. 15, 2000

# of Pages: 3 (including this sheet)

Comments:

AL :

Attached are our comments regarding US Agri-Chemicals preliminary determination.

Thanks,

Air & Radiation Technology Branch  
U.S. Environmental Protection Agency  
61 Forsyth Street SW, 12<sup>th</sup> Floor  
Atlanta, Georgia 30303

Phone: 404-562-9105  
Fax: 404-562-9095

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4

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

DEC 15 2000

4APT-ARB

Mr. A. A. Linero, P.E.  
Administrator  
New Source Review Section  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

SUBJ: Prevention of Significant Deterioration (PSD) Preliminary Determination for US Agri-Chemicals Corporation located in Fort Meade (Polk County), Florida  
PSD-FL-278

Dear Mr. Linero:

Thank you for submitting the above referenced PSD preliminary determination (dated October 31, 2000) to the U.S. Environmental Protection Agency (EPA) for comments. The proposed project involves the increase in production capacities of Phosphoric Acid Trains A and B (from 44 to 50 tons per hour phosphorous pentoxide input each) and the Phosphoric Acid Plant Tank Farm (a proportional increase to accommodate the production capacity increases). The total emissions increase of sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist, nitrogen oxides, and fluorides (F) resulting from the proposed project are above the respective significance thresholds requiring PSD review.

Based on a review of the preliminary determination, EPA has the following comments:

1. Although no ambient air quality standard or PSD increment exists for F, the applicant must still address the requirement for pre-construction monitoring of F. This is in direct accordance with Florida Rule 62-212-400(5)(f). A *de minimis* concentration has been specified for F above which pre-construction monitoring could be required. The applicant needs to model the proposed increase in F emissions and compare the predicted impact to this *de minimis* level to determine whether or not pre-construction monitoring will be required. Also, the applicant must address the additional impacts on soils, vegetation, wildlife, and visibility with respect to F emissions.

2

2. For the purpose of simplification, the applicant limited the modeling analysis used to demonstrate compliance with the Class I SO<sub>2</sub> PSD increment to only those days when the predicted impact from the proposed project was greater than significant. Although EPA does not have issue with this rationale, it is strongly recommended that such rationale be presented to the Class I area federal land manager for approval.

Thank you for the opportunity to comment on the US Agri-Chemicals preliminary determination. If you have any questions regarding these comments, please direct them to either Art Hofmeister at (404) 562-9115 or Jim Little at (404) 562-9118.

Sincerely,



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

TO: Clair Fancy

THRU: Al Linero *aal* 10/31

FROM: Syed Arif *Syed Arif*

DATE: October 31, 2000

SUBJECT: US Agri-Chemicals Corporation  
1050051-009-AC (PSD-FL-278)

---

Attached is the Public Notice package for increasing the production rate at the above referenced facility.

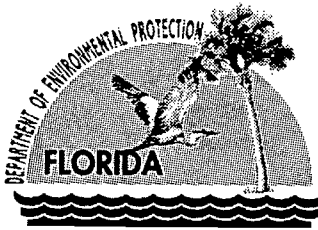
The production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 will be increased to 3000 tons per day, each. The production rate of the existing Phosphoric Acid Trains A and B will be increased from 44 to 50 tons per hour  $P_2O_5$  input, each. A proportional increase will result in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. An air quality impact analysis was required for sulfur dioxide and nitrogen oxides.

October 31 is Day 63 for the project.

I recommend your approval and signature.

AAL/sa

Attachments



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

## P.E. Certification Statement

**Permittee:**  
US Agri-Chemicals Corporation  
Ft. Meade Chemical Plant

**DEP File No.** 1050051-009-AC  
**Permit No.** PSD-FL-278

**Project type:** Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. . Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. An air quality impact analysis was required for sulfur dioxide and nitrogen oxides.

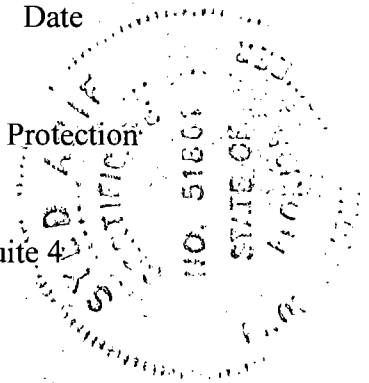
*I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

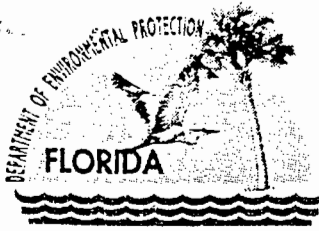
Syed Arif  
Syed Arif, P.E.  
Registration Number: 51861

10/31/00  
Date

Department of Environmental Protection  
Bureau of Air Regulation  
New Source Review Section  
111 South Magnolia Drive, Suite 400  
Tallahassee, Florida 32301  
Phone (850) 488-0114  
Fax (850) 922-6979

"More Protection, Less Process"





# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

## P.E. Certification Statement

**Permittee:**  
US Agri-Chemicals Corporation  
Ft. Meade Chemical Plant

**DEP File No.** 1050051-009-AC  
**Permit No.** PSD-FL-278

**Project type:** Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. An air quality impact analysis was required for sulfur dioxide and nitrogen oxides.

*I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

Syed Arif      10/31/00  
Syed Arif, P.E.      Date  
Registration Number: 51861

Department of Environmental Protection  
Bureau of Air Regulation  
New Source Review Section  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Phone (850) 488-0114  
Fax (850) 922-6979

"More Protection, Less Process"

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>		A. Received by (Please Print Clearly)	B. Date of Delivery 11-05-00
1. Article Addressed to: Mr. Phong T. Vo, Gen. Mgr. Engineering and Technical Services U. S. Agri-Chemical Corp 3225 State Rd. 630 West Ft. Meade, FL 33841		C. Signature X <i>Phong T. Vo</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
2. Article Number (Copy from service label) 7099 3400 0000 1453 0142		D. Is delivery address different from item 1? If YES, enter delivery address below: <input type="checkbox"/> Yes <input type="checkbox"/> No	
		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.	
		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

U.S. Postal Service	
CERTIFIED MAIL RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
Article Sent To: Mr. Phong T. Vo, Gen. Mgr.	
Postage \$	US Agri-Chem.
Certified Fee	Postmark Here
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees \$	
Name (Please Print Clearly) (to be completed by mailer) Mr. Phong T. Vo, Gen. Mgr.	
Street, Apt. No., or PO Box No. 3225 State Rd 630 West	
City, State, ZIP+4 Ft. Meade, FL 33841	
PS Form 3800, July 1999 See Reverse for Instructions	

7099 3400 0000 1453 0142





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

October 31, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo, General Manager  
Engineering and Technical Services  
U. S. Agri-Chemicals Corporation  
3225 State Rd. 630 West  
Ft. Meade, Florida 33841

Re: DRAFT Permit No. 1050051-009-AC (PSD-FL-278)  
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 Rd. 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,

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, General Manager E & TS  
US Agri-Chemicals Corporation  
3225 State Road 630 West  
Ft. Meade, Florida 33841

DEP File No. 1050051-009-AC  
Draft Permit No. PSD-FL-278  
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 Corporation, submitted a complete application on August 29, 2000 to the Department for an air construction permit to increase the sulfuric acid and phosphoric acid production capability within the complex and to increase the processing rate of the phosphoric acid tank farm at its Ft. Meade Chemical Plant. The plant is located at 3225 State Rd. 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.

  
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 11/1/00 to the person(s) listed:

Phong T. Vo, USAC\*  
Gregg Worley, EPA  
John Bunyak, NPS  
Bill Thomas, DEP  
John Koogler, 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) 11/1/00 (Date)

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DEP File No. 1050051-009-AC (PSD-FL-278)  
Ft. Meade Chemical Plant  
US Agri-Chemicals Corporation  
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to US Agri-Chemicals Corporation to increase the sulfuric acid and phosphoric acid production capability within the complex and to increase the processing rate of the Phosphoric Acid Tank Farm at its Ft. Meade Chemical Plant. The plant is located at 3225 State Rd. 630 West, Ft. Meade, Polk County.

A Best Available Control Technology (BACT) determination was required for sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), nitrogen oxides (NO<sub>x</sub>) and fluorides (F) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and address are US Agri-Chemicals Corporation, 3225 State Rd. 630 West, Ft. Meade, Florida 33841.

The physical production capability of the existing Sulfuric Acid Plants Nos. 1 and 2 will be increased to 3000 tons per day to match the previously-permitted production rates. The production rate of the existing Phosphoric Acid Trains A and B will be increased from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each. A proportional increase will result in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively.

The BACT emission limits for SO<sub>2</sub> and SAM are proposed to be 3.5 and 0.12 pounds per ton of sulfuric acid respectively SO<sub>2</sub>. These are the lowest values to-date in the fertilizer industry. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. The BACT fluoride emission limit is proposed to be 0.012 pounds per ton of P<sub>2</sub>O<sub>5</sub> input. This is equal to the lowest value to-date.

An air quality impact analysis for sulfur dioxide and nitrogen oxides 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 NO<sub>2</sub> impacts were insignificant so no PSD Class II increment consumption analysis was required for NO<sub>2</sub>. The maximum predicted SO<sub>2</sub> PSD Class II increments in the vicinity of the project consumed by all sources in the area, including this project, will be as follows:

	<u>Increment Consumed</u> ( $\mu\text{g}/\text{m}^3$ )	<u>Allowable Increment</u> ( $\mu\text{g}/\text{m}^3$ )	<u>Increment Consumed</u> (Percent)
SO <sub>2</sub>			
3-hour	259	512	51
24-hour	63	91	69
Annual	0	20	0

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.

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:

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

Department of Environmental Protection  
Southwest District Office  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
Telephone: 813/744-6100  
Fax: 813/744-6458

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.

TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION

US AGRI-CHEMICALS CORPORATION

FT. MEADE CHEMICAL PLANT  
Ft. Meade, Polk County

DEP File No. 1050051-009-AC  
PSD-FL-278

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

October 31, 2000

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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## 1. APPLICATION INFORMATION

### 1.1 Applicant Name and Address

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

Authorized Representative: Mr. Phong T. Vo; General Manager of Eng. And Tech. Services

### 1.2 Reviewing and Process Schedule

10-18-1999: Date of Receipt of Application  
11-03-1999: DEP's 1<sup>st</sup> Completeness Request  
02-02-2000: Applicant's response to DEP's 1<sup>st</sup> Completeness Request  
03-03-2000: DEP's 2<sup>nd</sup> Completeness Request  
06-23-2000: Applicant's response to DEP's 2<sup>nd</sup> Completeness Request  
07-20-2000: DEP's 3<sup>rd</sup> Completeness Request  
07-21-2000: DEP's 4<sup>th</sup> Completeness Request  
08-29-2000: Applicant's response to DEP's 3<sup>rd</sup> and 4<sup>th</sup> Completeness Requests. Application Complete  
11-xx-2000: Issue Intent

## 2. FACILITY INFORMATION

### 2.1 Facility Location

The agricultural chemicals manufacturing facility is located at 3225 State Rd. 630 West, Ft. Meade, Polk County. This site is over 100 kilometers from the Chassahowitzka National Wildlife Refuge, a Class I 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 agricultural chemicals facility makes sulfuric acid, phosphoric acid, monoammonium phosphate (MAP) and diammonium phosphate (DAP).

The sulfuric acid is produced on-site by burning elemental sulfur, converting the resulting sulfur dioxide to sulfur trioxide, and absorbing it into a recirculating sulfuric acid solution. Phosphoric acid is made by acidulation of phosphate rock with sulfuric acid. Waste gypsum is produced and stacked. The phosphoric acid is reacted with ammonia to make MAP and DAP. The facility is classified as a major or Title V source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), 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



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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(PSD). Per Table 62-212.400-2, modifications at the facility resulting in emissions increases greater than PSD significant levels, require review per the PSD rules and a determination of Best Available Control Technology (BACT) per Rule 62-212, F.A.C.

## 3. PROCESS DESCRIPTION

### 3.1 Sulfuric Acid Production

The plants are sulfur-burning double absorption sulfuric acid plants. This is the most common process for producing sulfuric acid in the U.S. phosphate fertilizer industry and it continues to be improved and employed at both existing and new installations in the U.S. and throughout the world.

The process is comprised of three distinct steps. These are sulfur combustion and gas preparation; catalytic conversion of sulfur dioxide to sulfur trioxide; and absorption of sulfur trioxide into sulfuric acid.

A great deal of heat is evolved throughout the process. Its management is an important consideration in optimizing the conversion and absorption steps as well as providing useful energy to the plant. Reaction kinetics and thermodynamics are also important factors. Following is a description of the process:

Atmospheric air is drawn through a filter by the main compressor and then contacted with a recirculating stream of sulfuric acid in the drying tower. The dried air is blown by a steam-driven compressor into a refractory-lined burner where molten sulfur is combusted to produce sulfur dioxide (SO<sub>2</sub>). The hot combustion gases are cooled in a waste heat boiler to recover excess heat as steam.

The gas stream is then introduced into a converter packed with catalyst. In a series of steps, the SO<sub>2</sub> and excess oxygen from the combustion air are progressively converted to SO<sub>3</sub>. The gases containing SO<sub>3</sub>, some unconverted SO<sub>2</sub>, oxygen, and atmospheric nitrogen are conveyed to an "interpass tower" where the SO<sub>3</sub> is absorbed into a stream of concentrated sulfuric acid and reacted with excess water to further strengthen the acid. By removing most SO<sub>3</sub> in the interpass absorber, the equilibrium favors further conversion of the remaining SO<sub>2</sub> to SO<sub>3</sub>. This is accomplished in the final pass of the converter. The resulting gas stream is conveyed to the high-efficiency "final tower" where most of the remaining SO<sub>3</sub> reacts with water in a 98-99 percent sulfuric acid stream.

Throughout the conversion, the temperatures are moderated by an intricate arrangement of heat exchangers so that the excess heat is removed. Mist eliminators are used to insure that sulfuric acid sprays and fine mists are contained, thereby protecting plant equipment and minimizing emissions to the atmosphere.

### 3.2 Phosphoric Acid Production

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

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Acid clarification removes certain impurities from the phosphoric acid. Purified acid is pumped into storage tanks. Air emissions of fluorides are controlled by scrubbers using pond water.

## 4. PROJECT DESCRIPTION

This permit addresses the following emissions units:

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
016	Product	Sulfuric Acid Plant No. 1
017	Product	Sulfuric Acid Plant No. 2
005	Process	Phosphoric Acid A Train
020	Process	Phosphoric Acid B Train
021	Process	Phosphoric Acid Tank Farm

The proposed project includes an increase in the production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, an increase in the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. There will be no changes to the existing molten sulfur system permit, which allows the storage and handling of 1974 tpd of molten sulfur.

Some equipment changes and upgrades will be necessary to increase the production rates of the emission units. The proposed project will result in actual increases in sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), nitrogen oxides (NO<sub>x</sub>) and fluorides (F). Emissions increases of all four pollutants listed above are above their respective significant emission levels per Table 62-212.400-2, F.A.C., and require PSD new source review.

## 5. RULE APPLICABILITY

The project is subject to the federal new source performance standards (NSPS) for wet-process phosphoric acid plants (40 CFR 60, Subpart T) and for sulfuric acid plants (40 CFR 60, Subpart H), incorporated by reference in Rule 62-204.800, F.A.C. The phosphoric acid plant is also subject to the 40 CFR 63 Subpart AA (NESHAPs). The Phosphoric Acid Tank Farm is not regulated under 40 CFR 60 Subpart T or 40 CFR 63 Subpart AA.

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 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 sulfur dioxide, sulfuric acid mist, nitrogen oxides and fluorides exceed the significant emission rates given in Chapter 62-212, Table 62-212.400-2, F.A.C. PSD review requires an assessment of air quality impacts and a determination of Best Available Control Technology (BACT).

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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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 four pollutants in excess of PSD significant amounts: SO<sub>2</sub>, NO<sub>x</sub>, F and SAM. SO<sub>2</sub> and NO<sub>x</sub> are criteria pollutants and have national and state ambient air quality standards (AAQS) and PSD increments defined for them. SAM and F are non-criteria pollutants and have no AAQS or PSD increments defined for them; therefore, an air quality impact analysis was required only for SO<sub>2</sub> and NO<sub>x</sub>. For SAM and F, the BACT requirements will establish the emission limits for this project. The PSD regulations require the following air quality analyses for this project:

- A significant impact analysis for SO<sub>2</sub> and NO<sub>x</sub>;
- An analysis of existing air quality for SO<sub>2</sub> and NO<sub>x</sub>;
- A PSD increment analysis for SO<sub>2</sub> and NO<sub>x</sub>;
- An Ambient Air Quality Standards (AAQS) analysis for SO<sub>2</sub> and NO<sub>x</sub>;
- An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The PSD increment and AAQS analyses depend on air quality dispersion modeling carried out in accordance with EPA guidelines.

Good Engineering Practice (GEP) stack height means the greater of: (1) 65 m (213 ft) or (2) the maximum nearby building height plus 1.5 times the building height or width, whichever is less. The stacks associated with the proposed project are all less than 65 m and will not exceed the GEP stack height regulations. However, these stacks will still be less than the corresponding GEP stack heights; therefore, the potential for building downwash to occur was considered in the modeling analysis for these stacks.

Based on the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in *NRDC v. Thomas*, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators." 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 NO<sub>2</sub> impacts from the project are predicted to be less than the de minimus level; therefore, preconstruction ambient air quality monitoring is not required for this pollutant. However, in the table, predicted SO<sub>2</sub> impacts from the project are greater than the de minimus level; therefore, the applicant is not exempt from preconstruction monitoring for this pollutant.

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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

Pollutant	Averaging Time	Max Predicted Impact (ug/m <sup>3</sup> )	De Minimus Level(ug/m <sup>3</sup> )	Impact Greater Than De Minimus?
NO <sub>2</sub>	Annual	0.02	14	NO
SO <sub>2</sub>	24-hour	69	13	YES

The applicant may instead satisfy the preconstruction monitoring requirement by using previously existing representative data. Previously existing representative monitoring data exists from an SO<sub>2</sub> monitor in Plant City to the north of the project. These data are appropriate for fulfilling the monitoring requirement for SO<sub>2</sub> and to establish background concentrations for use in the SO<sub>2</sub> AAQS analysis. The background concentrations for SO<sub>2</sub> are shown in the table below.

BACKGROUND CONCENTRATIONS FOR USE IN AAQS ANALYSES		
Pollutant	Averaging Time	Background Concentration (µg/m <sup>3</sup> )
SO <sub>2</sub>	Annual	11
	24-hour	31
	3-hour	114

### 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 on the PSD Class II area in the vicinity of the facility. 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, 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

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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.

At distances beyond 50 km from a source, the California Puff (CALPUFF) model is recommended for use by the EPA and the Fish and Wildlife Service. The CALPUFF model is a long-range transport, Lagrangian puff model applicable for estimating the air quality impacts in areas that are more than 50 km from a source. For the project the CALPUFF model, with 1990 meteorological data as input, was used to perform the significant impact, Class I PSD increment and regional haze analyses at the Chassahowitzka National Wilderness Area (CNWA).

### 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. Over twenty receptor rings with 10 degree intervals (10-360 degrees) were placed at distances ranging from 0.5 to 24 km from the facility, which is located in a PSD Class II area. In addition receptors were located along the facility's property boundary. Thirteen discrete receptors were set in the CNWA located approximately 125 km to the northwest of the project at its closest point. For each pollutant subject to PSD and also subject to PSD increment and/or AAQS analyses, this modeling compares maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts due to the project are predicted in the vicinity of the facility or in the CNWA. The tables below show the results of this modeling. There were significant impacts predicted in the CNWA Class I area for the SO<sub>2</sub> 3-hour and 24-hour averaging times. In the vicinity of the facility significant impacts were predicted for all SO<sub>2</sub> averaging times. Therefore, more detailed SO<sub>2</sub> AAQS and PSD increment analyses were required in both the Class II area in the vicinity of the project and the CNWA Class I area.

**Maximum Project Air Quality Impacts for Comparison  
to the PSD Class II Significant Impact Levels in the Vicinity of the Facility**

Pollutant	Averaging Time	Maximum Predicted Impact (ug/m <sup>3</sup> )	Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?	Radius of Significant Impact (km)
SO <sub>2</sub>	Annual	2	1	YES	8
	24-hour	23	5	YES	23
	3-hour	89	25	YES	11
NO <sub>2</sub>	Annual	0.02	1	NO	0

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## Maximum Project Air Quality Impacts in the CNWA for Comparison to the PSD Class I Significant Impact Levels

Pollutant	Averaging Time	Maximum Predicted Impact (ug/m <sup>3</sup> )	Significant Impact Level (ug/m <sup>3</sup> )	Significant Impact?
SO <sub>2</sub>	Annual	0.02	0.1	NO
	24-hour	0.3	0.2	YES
	3-hour	1.5	1.0	YES
NO <sub>2</sub>	Annual	0.0003	0.1	NO

### 6.1.5 Receptor Networks for the PSD Increment And AAQS Analyses

For the PSD Class II increment and AAQS analyses, receptor grids normally are based on the size of the significant impact area for each pollutant. As shown in the previous section, the size of the significant impact area for the required SO<sub>2</sub> analyses is 24 km. Thirteen department-approved discrete receptors were set in the CNWA for the PSD Class I increment analysis.

#### PSD Class II Increment Analysis

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant from a baseline concentration which was established in 1977 (the baseline year was 1975 for existing major sources of SO<sub>2</sub>) for SO<sub>2</sub> and 1988 for NO<sub>2</sub>. As the maximum predicted NO<sub>2</sub> impacts from the proposed project are less than significant, no additional modeling was required. The maximum predicted SO<sub>2</sub> PSD Class II area impacts from this project and all other increment-consuming sources in the area is shown in the table below. The table shows that all of the maximum predicted impacts are less than the allowable Class II increments.

#### PSD Class II Increment Analysis

Pollutant	Averaging Time	Maximum Predicted Impact (ug/m <sup>3</sup> )	Impact Greater Than Allowable Increment?	Allowable Increment (ug/m <sup>3</sup> )
SO <sub>2</sub>	24-hour	63	NO	91
	Annual	0	NO	20
	3-hour	259	NO	512

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## PSD Class I Increment Analysis

As the maximum predicted NO<sub>2</sub> impacts from the proposed project are less than significant, no additional modeling for NO<sub>2</sub> was required. The SO<sub>2</sub> PSD Class I increment modeling was simplified by limiting the analysis to days when the predicted impacts from the project were less than significant. The results of this modeling showed that the PSD increment contributions from all increment-consuming sources near the CNWA are negative when the predicted impacts from the proposed project are significant. Therefore, these CALPUFF modeling results predict that the Class I area PSD increments would not be exceeded by the proposed project, and that the proposed project would not significantly contribute to any predicted violations of the Class I increments.

## AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. As the maximum predicted NO<sub>2</sub> impacts from the proposed project are less than significant, no additional modeling was required. The results of the AAQS analysis for SO<sub>2</sub> are summarized in the table below. As shown in this table, emissions from the proposed facility are not expected to cause or significantly contribute to a violation of any AAQS.

**Ambient Air Quality Impacts**

Pollutant	Averaging Time	Major Sources Impact (ug/m <sup>3</sup> )	Background Conc. (ug/m <sup>3</sup> )	Total Impact (ug/m <sup>3</sup> )	Florida AAQS (ug/m <sup>3</sup> )	Total Impact Greater Than AAQS?
SO <sub>2</sub>	24-hour	203	32	235	260	NO
	Annual	39	8	47	60	NO
	3-hour	476	114	590	1300	NO

## 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 SO<sub>2</sub> and NO<sub>x</sub> 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.



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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### 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 Fish and Wildlife 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

<b>File No.</b>	1050051-009-AC
<b>Permit No.</b>	PSD-FL-278
<b>SIC No.</b>	2874
<b>Project:</b>	Ft. Meade Chemical Plant
<b>Expires:</b>	October 1, 2002

*Authorized Representative:*

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

**PROJECT AND LOCATION:**

Permit for the construction /modification of the Ft. Meade Chemical Plant to increase production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm. 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

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Howard L. Rhodes, Director  
Division of Air Resources  
Management

**SECTION I. FACILITY INFORMATION**

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**FACILITY DESCRIPTION**

The Ft. Meade Chemical Plant is an agricultural chemicals manufacturing facility. Phosphate rock is reacted with sulfuric acid (purchased or produced on-site) to make phosphoric acid. The phosphoric acid is further processed into monoammonium phosphate (MAP) and diammonium phosphate (DAP).

This permit is issued to allow an increase in the production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, an increase in the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour  $P_2O_5$  input, each; and a proportional increase in the processing rate of the Phosphoric Acid Tank Farm.

**REGULATORY CLASSIFICATION**

The 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 sulfur dioxide and nitrogen oxides.

**PERMIT SCHEDULE:**

- 10-18-1999: Date of Receipt of Application
- 08-29-2000: Application deemed complete
- 11-xx-2000: Intent issued

**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 10-18-1999
- Department letters dated 11-03-1999, 03-03-2000, 07-20-2000 and 07-21-2000
- Applicant letters dated 02-02-2000, 06-23-2000 and 08-29-2000
- Technical Evaluation and Preliminary Determination dated 10-31-2000
- Best Available Control Technology determination (issued concurrently with permit)

**SECTION II. EMISSION UNIT(S) ADMINISTRATIVE REQUIREMENTS**

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1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection, Southwest District Office located at 3804 Coconut Palm Drive, Tampa, Florida 33619, and phone number (813) 744-6100. All applications for permits to construct or modify an emission unit(s) subject to the Prevention of Significant Deterioration (PSD) should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP) located at 2600 Blirstone Road, Tallahassee, Florida 32399-2400 and 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. Forms and Application Procedures: 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. **[Rule 62-210.900, F.A.C.]**
5. Expiration: This air construction permit shall expire on **October 1, 2002**. **[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 permitting authority 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. Applicable Regulations: The facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-204; 62-210; 62-212, 62-213, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300, F.A.C.]**

**AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS**

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**COMMON CONDITIONS: 40 CFR 60 - NEW SOURCE PERFORMANCE STANDARDS**

This permit addresses the following emission units.

EMISSION UNIT No.	EMISSION UNIT DESCRIPTION
016	Sulfuric Acid Plant No. 1
017	Sulfuric Acid Plant No. 2
005	Phosphoric Acid A Train
020	Phosphoric Acid B Train
021	Phosphoric Acid Tank Farm

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 Phosphoric Acid Trains A and B are subject to the applicable requirements of the New Source Performance Standards (NSPS) under 40 CFR 60 Subpart T, Standards of Performance for Wet-Process Phosphoric Acid Plants and National Emission Standards for Hazardous Pollutants (NESHAPs) under 40 CFR 63 Subpart AA, for Phosphoric Acid Plants.

The Phosphoric Acid Tank Farm is not subject to NSPS (40 CFR 60 Subpart T) or NESHAPs (40 CFR 63 Subpart AA).

The Sulfuric Acid Plant Nos. 1 and 2 are subject to the applicable requirements of the New Source Performance Standards (NSPS) under 40 CFR 60 Subpart H, Standards of Performance for Sulfuric Acid Plants.

**SPECIFIC CONDITIONS :**

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

EMISSION UNIT No.	EMISSION UNIT DESCRIPTION
016	Sulfuric Acid Plant No. 1
017	Sulfuric Acid Plant No. 2
005	Phosphoric Acid A Train
020	Phosphoric Acid B Train
021	Phosphoric Acid Tank Farm

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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1. Unless otherwise indicated, the construction and operation of the subject agricultural chemicals production facilities 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 Wet-Process Phosphoric Acid Plants, Subpart T and for Sulfuric Acid Plants, Subpart H; and, 40 CFR 63 Subpart AA, for phosphoric acid plants, as applicable. [Rule 62-204.800 F.A.C.]
3. The maximum operation rates shall not exceed:
  - a. Sulfuric Acid Plant Nos. 1 and 2, each - 3000 tpd 100% H<sub>2</sub>SO<sub>4</sub>;
  - b. Phosphoric Acid Trains A and B, each - 50 tph P<sub>2</sub>O<sub>5</sub> input, 30-day rolling average, and 55 tph maximum. Maximum annual rate shall not exceed 438,000 tons P<sub>2</sub>O<sub>5</sub> input.
  - c. Phosphoric Acid Tank Farm - 100 tph P<sub>2</sub>O<sub>5</sub> input, 30-day rolling average, and 110 tph maximum. Maximum annual rate shall not exceed 876,000 tons P<sub>2</sub>O<sub>5</sub> input.[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
4. The subject emission units are allowed to operate continuously (8760 hours/year).  
[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]
5. Emissions of sulfur dioxide from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 3.5 lb/ton 100% H<sub>2</sub>SO<sub>4</sub>, averaged over three hours, and 1916 tpy. [Rule 62-212.400, F.A.C.]
6. Emissions of sulfuric acid mist from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 0.12 lb/ton 100% H<sub>2</sub>SO<sub>4</sub> and 65.7 tpy. [Rule 62-212.400, F.A.C.]
7. Emissions of nitrogen oxides from the Sulfuric Acid Plant Nos. 1 and 2 each, shall not exceed 0.12 lb/ton 100% H<sub>2</sub>SO<sub>4</sub> and 65.7 tpy. [Rule 62-212.400, F.A.C.]
8. Emissions of total fluorides from the Phosphoric Acid Trains A and B each, shall not exceed 0.012 lb/ton P<sub>2</sub>O<sub>5</sub> input and 2.63 tpy. [Rule 62-212400, F.A.C.]
9. Emissions of total fluorides from the Phosphoric Acid Tank Farm, shall not exceed 1.0 lb/hr and 4.38 tpy. [Rule 62-210.200, F.A.C.]
10. Visible emissions shall not exceed 10 percent opacity from the sulfuric acid plants.  
[Rule 62-212.400, F.A.C.]
11. The permittee shall install, calibrate, operate and maintain monitoring devices that continuously measure and record the total pressure drop across each phosphoric acid plant scrubbing system. Accuracy of the monitoring devices shall be ± 5% over the operating range.  
[Rules 62-297.310, 62-204.800, F.A.C.; 40 CFR 60.203]
12. In order to minimize excess emissions during startup/shutdown/malfunction these emissions units shall adhere to best operational practices. The provisions of the Memorandum of Understanding issued by the Department, are hereby added to this permit as Appendix A and shall be added to the Title V permit. [Rule 62-210.700, F.A.C., 40 CFR 60.7]

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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13. A continuous emissions monitoring system (CEMS) for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained in accordance with 40 CFR 60.84 (1999 version).
14. 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 30 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.  
**[Rule 62-297.310, F.A.C.]**
15. 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.]**
16. The procedures for the initial compliance test shall be in accordance with EPA Reference Methods 1, 2, 3, 4, 6C, 7E, 8, 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(7)(c), F.A.C.]**
17. 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 62-4.070(3), F.A.C.]**
18. The permittee shall install, calibrate, maintain, and operate monitoring devices which can be used to determine the mass flow of phosphorus-bearing feed material to the phosphoric acid processes. The monitoring devices shall have an accuracy of  $\pm 5$  percent over the operating range. The 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 60.203(a), and then by proceeding according to 40 CFR 60.204(b)(3) **[Rule 62-204.800, F.A.C.]**
19. 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.]**
20. 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.]**
21. 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

AIR CONSTRUCTION PERMIT 1050051-009-AC AND PSD-FL-278  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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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.]
  - The down time on the Phosphoric Acid Tank Farm scrubber, when the Tank Farm is operating, may exceed 2 hours in a 24-hour period for maintenance purposes only.
22. The permittee shall submit an Annual Operating Report using DEP Form 62-210.900(4) 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.]



**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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**Ft. Meade Chemical Plant**  
**US Agri-Chemicals Corporation**  
**PSD-FL-278 / 1050051-009-AC**  
**Ft. Meade, Polk County**

The project proposed by US Agri-Chemicals Corporation will increase the production rate of the existing Sulfuric Acid Plants Nos. 1 and 2 to 3000 tons per day, each; to match the previously-permitted production rates, increase the production rate of the existing Phosphoric Acid Trains A and B from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each; and will increase the processing rate of the Phosphoric Acid Tank Farm.

The proposed modification will result in a significant increase in emissions of sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), nitrogen oxides (NO<sub>x</sub>) 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.

**DATE OF RECEIPT OF COMPLETE BACT APPLICATION:**

August 29, 2000

**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 impacts, and other costs, determines what 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 and 63 - 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.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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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 this facility can 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 be classified as indicated below:

- *Fluorides* (HF, SiF<sub>4</sub>). Controlled generally by scrubbing with pond water.
- *Particulate Matter* (PM, PM<sub>10</sub>). Controlled generally by wet scrubbing or filtration.
- *Combustion Products* (SO<sub>2</sub>, NO<sub>x</sub>, 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 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, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, 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.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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**BACT LIMITS PROPOSED BY APPLICANT:**

<b>POLLUTANT</b>	<b>EMISSION UNIT</b>	<b>EMISSION LIMIT</b>	<b>CONTROL TECHNOLOGY</b>
SO <sub>2</sub>	Sulfuric Acid Plant Nos. 1 and 2	3.5 lb/ton H <sub>2</sub> SO <sub>4</sub>	Double Absorption Process
SAM	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Fiber Mist Eliminators
NO <sub>x</sub>	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Good Combustion Practice
F	Phosphoric Acid Trains A and B	0.012 lb/ton P <sub>2</sub> O <sub>5</sub> input	Wet scrubbers using pond water
F	Phos. Acid Tank Farm	1.0 lb/hr	Wet scrubbers using pond water

The applicant has proposed to use the existing double absorption process and improved process parameters to achieve the proposed limits for the sulfuric acid plants. The existing scrubbing systems are proposed as BACT for the phosphoric acid trains and the phosphoric acid tank farm.

**BACT POLLUTANT ANALYSIS**

The applicant will achieve the proposed emissions limits by improving the sulfur dioxide conversion of the traditional double absorption plant. The improvement will be accomplished by an increase in the catalyst loading. The emission limit of 3.5 pounds per ton of acid averaged over three hours was recently imposed on the new sulfuric acid plant at Farmland Hydro, L.P.

Control options involving production of by-products or wastes have been rejected as BACT. There is no indication that add-on control methods are competitive with process improvements that result in production of additional sulfuric acid. Recovery of sulfuric acid mist is an economic necessity as well as an environmental requirement. High efficiency mist eliminators are considered BACT for sulfuric acid mist.

The Department agrees with the applicant that the sulfur burning process utilized in the sulfuric acid plant inherently produces low NO<sub>x</sub> emissions, and is considered BACT for NO<sub>x</sub>.

Fluoride-containing gases, including hydrogen fluoride (HF), are evolved during the chemical reactions from the phosphoric acid process. Scrubbing the gas stream with pond water removes most of the fluoride evolved from the process.

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. Existing scrubber and process cooling pond water.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

---

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, the main considerations being the cost of installing the pond and equipment and the cost of operating a lime treatment unit. Costs for Option 2, based on data for a similar project amounted to almost \$40,000 per ton of fluorides removed. FDEP considers this figure sufficiently high to rule out Option 2. However, it should be noted that the low magnitude of fluoride emissions relative to their potential environmental impact justifies the consideration of higher fluoride cost effectiveness figures relative to the high tonnage pollutants such as sulfur dioxide and nitrogen oxides.

For the proposed project, Option 3, is determined by the top-down approach as the basis for the fluoride BACT emission limit.

The BACT limits tabulated above for the emission units evaluated are based on the recent compliance test results for the units between 1995 - 1999. These limits have been demonstrated to be achievable based on the historical test data for the emission units. The Department has concluded that the units can continue to achieve the same historically low emissions without the need for modifications.

**BACT DETERMINATION BY THE DEPARTMENT:**

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

<b>POLLUTANT</b>	<b>EMISSION UNIT</b>	<b>LIMIT BASIS</b>	<b>CONTROL TECHNOLOGY</b>
SO <sub>2</sub>	Sulfuric Acid Plant Nos. 1 and 2	3.5 lb/ton H <sub>2</sub> SO <sub>4</sub>	Double Absorption Process
SAM	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Fiber Mist Eliminators
NO <sub>x</sub>	Sulfuric Acid Plant Nos. 1 and 2	0.12 lb/ton H <sub>2</sub> SO <sub>4</sub>	Good Combustion Practice
F	Phosphoric Acid Trains A and B	0.012 lb/ton P <sub>2</sub> O <sub>5</sub> input	Wet scrubbers using pond water
F	Phos. Acid Tank Farm	1.0 lb/hr	Wet scrubbers using pond water

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

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These limits have been demonstrated to be achievable based on the historical test data for the emission units. SO<sub>2</sub> and F are the key parameters. The emission limits established for those are the lowest in the fertilizer industry.

**COMPLIANCE**

Compliance with the sulfur dioxide, sulfuric acid mist, nitrogen oxides and fluoride limits shall be demonstrated using EPA Reference Methods 1, 2, 3, 4, 6C, 7E, 8, 9 and 13A or 13B as appropriate, and 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]

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- 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 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.

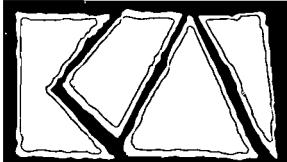
- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
  - (b) The 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]

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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.



**KOOGLER & ASSOCIATES**  
**ENVIRONMENTAL SERVICES**

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

KA 173-00-02

October 16, 2000

**RECEIVED**

**OCT 17 2000**

**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: Additional Information for PSD Application  
U.S. Agri-Chemicals Corp.  
File No. 1050051-009-AC, PSD-FL-278

Dear Mr. Linero:

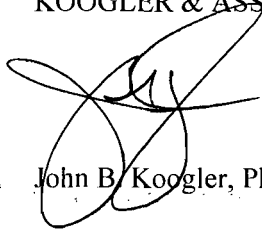
This is a follow up to Pradeep Raval's recent telephone discussion with Mr. Syed Arif regarding the above referenced project.

USAC hereby requests a reduced fluoride emission rate for the Phosphoric Acid Trains A and B from 0.0135 to 0.012 pound per ton P<sub>2</sub>O<sub>5</sub> (lb/ton P<sub>2</sub>O<sub>5</sub>) input. USAC also requests a 30-day rolling average for the 50 ton per hour (tph) P<sub>2</sub>O<sub>5</sub> input rate of each train, not to exceed 55 tph P<sub>2</sub>O<sub>5</sub> input (110%). The 30-day averaging will allow fluctuations in the production rate without affecting the rule applicability for the proposed project. The requested annual fluoride emissions will be reduced from 2.96 to 2.63 tons per year (tpy) for each train while the requested annual phosphoric acid production rate will remain unchanged. Based on the discussions, it is our understanding that this request will not interfere with the status of the project review.

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

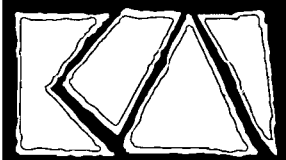
KOOGLER & ASSOCIATES

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

JBK:par

c: S. Arif, FDEP  
J. Girardin, USAC  
R. Brunk, USAC  
*C. Halladay*  
SWD  
EPA  
NPS





**KOGLER & ASSOCIATES**  
**ENVIRONMENTAL SERVICES**

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

KA 173-00-02

August 28, 2000

**RECEIVED**

**AUG 29 2000**

**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: Additional Information for PSD Application  
U.S. Agri-Chemicals Corp.  
File No. 1050051-009-AC, PSD-FL-278

Dear Mr. Arif:

This is in response to Mr. Linero's letter dated July 20, 2000 and Cleve Holladay's letter dated July 21, 2000, requesting additional information on the above referenced project. The responses below are presented in the order of the issues raised.

ITEM 1: Stack Test Data

It is our understanding, based on your recent telephone conversation with Pradeep Raval, that the historical stack test information being requested may be summarized in order to facilitate the data review. Such a summary is presented in Attachment 1. Copies of all the respective stack test reports can be submitted, if necessary for FDEP's review.

Information on the variability in scrubber water flow rates and the scrubber pressure drop has also been summarized for a recent 30-day period during which compliance testing was conducted (see Attachment 1).

Emission calculations presented in the application have not been revised to reflect the "lb/ton" emissions data presented in Attachment 1. The use of a different method of calculating actual fluoride emissions will not affect rule applicability for the proposed project.

ITEM 2: Tank Farm Emission Limit

The requested fluoride emission limit is based on the variability of the emissions, as indicated by the information in Attachment 1. Furthermore, a greater "safety margin" is required at the proposed higher operating levels due to increased potential variability that can be expected under the higher operating levels.

ITEM 3: Venturi Scrubber Design Information

As the existing scrubbing system was installed in 1982, there is very limited available information on the details of the scrubber design. A drawing, presented in Attachment 2, indicates the scrubber design dimensions. As information on the inlet fluoride concentration level is not available, it is not possible to accurately calculate the scrubber efficiency. Based on EPA's 1976 guideline document "Final Guideline Document: Control of Fluoride Emissions from Existing Phosphate Fertilizer Plants", a venturi scrubber in a wet process phosphoric acid plant may offer a maximum of 85-90 percent control.

ITEM 4: BACT Control Costs

The BACT evaluation submitted in the application included a cost analysis based on the ultimate cost to USAC. The net environmental benefit, from projected emission reductions resulting from the addition of a new scrubber, indicated the cost of fluoride control at around \$49,000 per ton. A similar assessment for replacement of the existing scrubber with a new crossflow scrubber should include retrofitting costs. Due to space limitations, the new scrubber will have to be installed with a duct connection of about 60 feet. The estimated cost of the duct extension and production loss during the pollution control equipment switchover is estimated by the USAC engineering staff at about \$500,000.

The previously submitted information, addressing A and B Trains and the Tank Farm scrubbers individually, can be revised based on retrofit costs, as follows:

Revised TCI (including retrofit)	= \$ 993,000
Indirect Cost (0.1715 TCI, EPA factor)	= \$170,000
Total Direct Costs	=\$ 60,000
Annual Cost (DC + IC)	=\$ 230,000

The plant's uncontrolled fluoride emissions can be estimated based on the assumption of 75 percent emission reduction offered by the current venturi scrubber. The potential emission reductions from the retrofitting can be estimated based on the assumption of 99 percent control by a packed crossflow scrubber.

Uncontrolled fluoride emissions	= 2.96 tpy / (1-0.75) = 11.8 tpy
Fluorides controlled, new scrubber	= 11.8 tpy x 0.99 = 11.7 tpy
Estimated Control Cost, \$/ton of fluorides removed	= \$230,000 / 11.7 tpy = \$19,600

Based on the above cost analysis the replacement of the existing venturi scrubbers, with crossflow packed-bed scrubbers, is rejected as BACT.

#### ITEM 5: MAP Plant Permitting History

FDEP issued a construction permit for USAC's Prilled MAP Plant in October 1998. Due to changing market conditions, USAC applied for a construction permit in May 1999 for modification of the MAP Plant to produce either a prilled or a granular product. A construction permit for that project was issued in September 1999 (see Attachment 3 for the production capacity provisions of the permit). Construction on that project has not been completed.

The proposed increase in phosphoric acid production will make the additional acid available for the MAP plant. The proposed phosphoric acid production increase will not result in the modification of any units.

#### ITEM 6: Ambient Air Quality Analysis for Sulfur Dioxide

Additional air dispersion modeling was conducted, as requested by Cleve Holladay, by including additional sulfur dioxide emitting sources identified by FDEP (FPC Bartow, FPC Bayboro and FPC Higgins) in the modeling inventory to determine compliance with the ambient air quality standards (AAQS).

The results of the modeling indicated the potential for maximum predicted impacts close to the AAQS. Based on the results of the modeling, refined modeling was required for the AAQS 24-hour period for specific receptor locations identified by Cleve Holladay. These locations corresponded to the location of all impacts within 10 percent of the maximum predicted impact.

August 28, 2000

FDEP also recommended using a background SO<sub>2</sub> concentration level of 31 ug/m<sup>3</sup>, from an ambient SO<sub>2</sub> monitor located in Plant City. The use of this background concentration level, given the proximity of the monitor to nearby sources already included in the emissions inventory, likely results in considerable double counting of impacts. Therefore, it should be recognized that the maximum predicted impacts resulting from this analysis are overly conservative.

The refined modeling was conducted in a manner so as to generate an event file for all predicted impacts that exceeded 228 ug/m<sup>3</sup>. This threshold was based on the standard minus the background concentration level (260 – 32 = 228).

All impacts in excess of the target concentration level of 228 ug/m<sup>3</sup> were evaluated for contribution from the proposed USAC project.

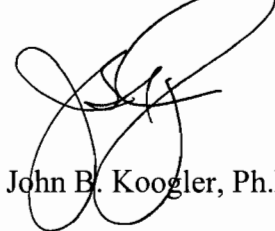
The results of the modeling indicate that there is potential for maximum predicted impacts to exceed the 24-hour AAQS, depending on the choice of background concentration level. However, the analysis further indicated that the maximum predicted USAC contribution to all the predicted impacts over 228 ug/m<sup>3</sup>, were less than significant. The information used in the modeling and the results from the modeling analysis are presented in Attachment 4.

Based on the results of the revised refined air impact analysis, it can be stated that the proposed project will not cause or significantly contribute to any predicted exceedances of the ambient air standards or allowable PSD increments.

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES



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

JBK:par  
Enc.

c: J. Girardin, USAC  
R. Brunk, USAC  
*S. Arif*  
*C. Kulladany*  
SWD  
EPA  
NPS

ATTACHMENT 1  
STACK TEST DATA

USAC STACK TEST DATA  
PHOSPHORIC ACID TRAINS A and B, and TANK FARM

A-train							B-train							T-Farm						
Date	P2O5 tpd	Air skcfm	Water gpm	Pdrop "H2O	F Emissions lb/hr lb/tP2O5		Date	P2O5 tpd	Air skcfm	Water gpm	Pdrop "H2O	F Emissions lb/hr lb/tP2O5		Date	P2O5 tpd	Air skcfm	Water gpm	Pdrop "H2O	F Emissions lb/hr lb/tP2O5	
26-Oct-92	818	11.0	590	10.6	0.134	0.0039	27-Oct-92	983	9.6	590	13.7	0.028	0.0007	12-Sep-95	1750	5.6	60	0.9	1.210	0.0168
30-Sep-93	759	10.2	600	8.3	0.225	0.0071	28-Sep-93	844	9.3	159	15.8	0.051	0.0014	8-Nov-96	1613	4.7	103	1.4	1.034	0.0154
25-Oct-94	1003	10.3	100	6.6	0.059	0.0014	26-Oct-94	958	10.8	100	13.4	0.026	0.0007	4-Dec-96	1901	3.6	160	1.7	0.427	0.0054
14-Sep-95	1020	10.1	136	7.2	0.090	0.0021	8-Aug-95	953	11.5	96	9.9	0.085	0.0022	9-Dec-96	2134	3.5	130	1.7	0.760	0.0085
11-Dec-96	1054	11.1	120	8.1	0.820	0.0008	13-Sep-95	922	10.9	74	12.0	0.057	0.0015	22-Sep-97	1733	4.2	230	3.1	0.856	0.0119
9-Oct-97	970	10.1	135	9.7	0.074	0.0018	10-Dec-96	1082	10.8	75	11.6	0.022	0.0005	10-Oct-97	1997	3.4	169	3.6	0.155	0.0019
23-Oct-97	1034	10.0	120	9.5	0.029	0.0007	8-Oct-97	805	9.0	151	12.9	0.080	0.0024	20-Oct-97	1898	3.9	108	3.3	0.201	0.0025
9-Apr-98	1032	8.4	68	10.9	0.081	0.0019	21-Oct-97	1051	10.4	77	12.3	0.110	0.0025	8-Apr-98	2004	3.3	98	2.3	0.500	0.0059
9-Nov-98	998	12.3	77	12.6	0.074	0.0017	10-Dec-98	996	11.3	97	14.3	0.039	0.0009	11-Nov-98	1944	3.9	101	3.3	0.570	0.0071
20-Jan-99	1042	12.7	255	15.4	0.033	0.0008	22-Jan-99	996	11.4	257	17.6	0.022	0.0005	20-Jan-99	2023	3.8	160	3.5	0.080	0.0010
8-Nov-99	1006	13.5	77	12.9	0.045	0.0011	9-Nov-99	1032	12.7	71	12.8	0.069	0.0016	10-Nov-99	2040	10.4	80	9.8	0.118	0.0014
2-Feb-00	974	13.0	270	15.9	0.019	0.0005	1-Feb-00	996	12.9	251	14.3	0.022	0.0005	31-Jan-00	1934	9.8	329	18.3	0.350	0.0043
Emissions summary:				Max	0.820	0.007	Emissions summary:				Max	0.110	0.003	Emissions summary:				Max	1.21	0.02
				S.Dev.	0.221	0.002					S.Dev.	0.030	0.001					S.Dev.	0.37	0.01
				Max+2 SD	1.041	0.011					Max+2 SD	0.169	0.004					Max+2SD	1.96	0.03

- NOTES: (1) Summaries of tests requested by DEP and some earlier tests for Phosphoric acid Trains A and B and Tank Farm.  
(2) Some of the high and low test parameters reflect test protocols discussed with FDEP for permitting purposes.  
(3) As the tank farm receives multiple streams of acid, only the lb/hr emissions are meaningful.  
(4) Test on B Train in Dec 1996 represents projected operation rate for the duration of the test and does not reflect production for that day.

A-train	Water gpm	P.Drop "H2O
Max	292	16.1
Min	122	13.6
~Avg	209	15.0

B-train	Water gpm	P.Drop "H2O
Max	258	15.6
Min	121	12.0
~Avg	207	14.0

T-farm	Water gpm	P.Drop "H2O
Max	376	20.4
Min	140	9.0
~Avg	248	15.8

ATTACHMENT 2

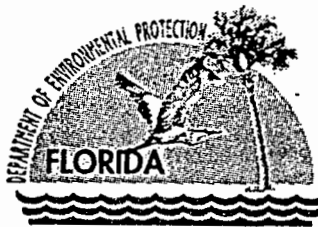
SCRUBBER INFORMATION





ATTACHMENT 3

MAP PLANT PERMIT INFORMATION



# 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

**PERMITTEE:**

U.S. Agri-Chemicals Corp.  
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC  
Project: Granular MAP/DAP Plant

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<sub>10</sub> 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.

**PERMITTEE:**

U.S. Agri-Chemicals Corp.  
Ft. Meade Chemical Plant

**Permit No.:** 1050051-008-AC -  
**Project:** Granular MAP/DAP Plant

- 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.

**PERMITTEE:**

U.S. Agri-Chemicals Corp.  
Ft. Meade Chemical Plant

Permit No.: 1050051-008-AC -  
Project: Granular MAP/DAP Plant

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 P<sub>2</sub>O<sub>5</sub> 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.

ATTACHMENT 4

REVISED MODELING INFORMATION

**Additional CLASS II Area Sulfur Dioxide Emitting Facilities**

SOURCE DESCRIPTION	F A A Q S						
	UTM COORDINATES (km)		Emissions (g/s)	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH					
FPC BARTOW PEAKING 1-4	-73540	13670	192.89	13.70	772.0	22.30	5.30
FPC BARTOW PIPELINE HEATER (U04)	-73540	13670	1.80	9.10	541.0	5.20	0.90
FPC BARTOW UNIT 1 & 2 (U01&02)	-73540	13670	896.80	91.40	429.0	36.30	2.70
FPC BARTOW UNIT 3 (U03)	-73540	13670	710.54	91.40	408.0	34.40	3.40
FPC BAYBORO PEAKING 1-4	-77140	2370	197.80	12.20	755.0	6.40	7.00
FPC HIGGINS OTHER UNITS	-79440	29470	25.21	16.76	727.4	113.47	4.60
FPC HIGGINS UNIT 3	-79440	29470	129.90	53.00	423.0	7.30	3.80
FPC HIGGINS UNITS 1&2	-79440	29470	192.20	53.00	429.0	8.20	3.80

SO2 Modeling Results for USAC Chemicals Ft Mead

08/13/2000

Class 2 Area FAAQS Standard Analysis

Year	3-Hour High AT (X & Y)		3-Hour HSH AT (X & Y)		24-Hour High AT (X & Y)		24-Hour HSH AT (X & Y)		Annual High AT (X & Y)	
1987	551.25		448.84		191.19		191.18		28.97	
	-5638.16	2052.12	-5638.16	2,052.12	-3762.22	10,336.62	-3762.22	10,336.62	1378.73	-243.11
1988	523.85		475.74		183.91		168.82		25.92	
	-6000.00	10,392.30	-3762.22	10,336.62	-5500.00	9526.28	-5500.00	9526.28	-868.24	-4924.04
1989	432.26		426.08		237.94		200.61		38.84	
	-7517.54	2736.16	-5142.30	6,128.36	-5142.30	6128.36	-5500.00	9826.28	-8457.23	3078.18
1990	488.17		365.03		204.05		193.34		32.47	
	1772.65	-312.57	1049.52	-293.61	-3762.22	10,336.62	-3762.22	10,336.62	-1041.89	-5908.85
1991	473.91		443.02		199.73		177.73		35.61	
	-5500.00	9526.28	-1910.13	10,832.88	-3762.22	10336.62	0.00	-6000.00	1041.89	-5908.85
Maximum	551.25		475.74		237.94		200.61		38.84	
Standard			1300				260		60	

Class 2 Area FAAQS Standard Refined Analysis (24-HR)  
2000 Meter Square Grid of Receptors With 100 Meter Spacing

Year	3-Hour High AT (X & Y)		3-Hour HSH AT (X & Y)		24-Hour High AT (X & Y)		24-Hour HSH AT (X & Y)		Annual High AT (X & Y)	
1987	551.25		448.84		259.93		248.84		28.97	
	-5638.16	2052.12	-5638.16	2,052.12	-4662.22	10,336.62	-4762.22	10,336.62	1378.73	-243.11
1988	523.85		475.74		183.91		168.82		25.92	
	-6000.00	10,392.30	-3762.22	10,336.62	-5500.00	9526.28	-5500.00	9526.28	-868.24	-4924.04
1989	432.26		426.08		275.66		229.40		38.84	
	-7517.54	2736.16	-5142.30	6,128.36	-5400.00	10026.28	-5500.00	9526.28	-8457.23	3078.18
1990	488.17		365.03		294.51		243.87		32.47	
	1772.65	-312.57	1049.52	-293.61	-4762.22	10,736.62	-4762.22	10536.62	-1041.89	-5908.85
1991	473.91		443.02		276.31		234.77		35.61	
	-5500.00	9526.28	-1910.13	10,832.88	-4762.22	10836.62	-4762.22	10636.62	1041.89	-5908.85
Maximum	551.25		475.74		294.51		248.84		38.84	
Standard			1300				260		60	



ISC DESIGNATION	YEAR/MONTH DAY/HOUR	INVENTORY CONTRIBUTION	YEAR/MONTH DAY/HOUR	RECEPTOR EAST (M)	LOCATION WEST (M)	USAC CONTRIBUTION
H1H24001	87050124	259.92529	87040624;	-4762.22	10736.62	USAC = 0.00000 ***
TH240001	87040624	236.06146	87040624;	-4662.22	10736.62	USAC = 0.00000 ***
TH240002	87040624	231.31818	87040624;	-4762.22	10836.62	USAC = 0.00000 ***
TH240003	87040624	259.07553	87040624;	-4662.22	10836.62	USAC = 0.00000 ***
TH240004	87040624	256.30273	87040624;	-4562.22	10836.62	USAC = 0.00000 ***
TH240005	87040624	249.82761	87040624;	-4462.22	10836.62	USAC = 0.00000 ***
TH240006	87040624	241.45158	87040624;	-4362.22	10836.62	USAC = 0.00000 ***
TH240007	87040624	231.76837	87041024;	-4662.22	10536.62	USAC = 0.00000 ***
TH240008	87041024	230.80225	87041024;	-4562.22	10536.62	USAC = 0.00000 ***
TH240009	87041024	239.79283	87041024;	-4462.22	10536.62	USAC = 0.00000 ***
TH240010	87041024	240.86980	87041024;	-4362.22	10536.62	USAC = 0.00000 ***
TH240011	87041024	236.80843	87041024;	-4262.22	10536.62	USAC = 0.00000 ***
TH240012	87041024	229.79604	87041024;	-4762.22	10636.62	USAC = 0.00000 ***
TH240013	87041024	248.84459	87041024;	-4662.22	10636.62	USAC = 0.00000 ***
TH240014	87041024	248.38121	87041024;	-4562.22	10636.62	USAC = 0.00000 ***
TH240015	87041024	242.14792	87041024;	-4462.22	10636.62	USAC = 0.00000 ***
TH240016	87041024	232.74844	87042424;	-4762.22	10736.62	USAC = 0.00000 ***
TH240017	87042424	228.72713	87042424;	-4662.22	10736.62	USAC = 0.00000 ***
TH240018	87042424	229.14398	87042424;	-4762.22	10836.62	USAC = 0.00000 ***
TH240019	87042424	231.54150	87042424;	-4662.22	10836.62	USAC = 0.00000 ***
TH240020	87042424	233.74548	87042424;	-4562.22	10836.62	USAC = 0.00000 ***
TH240021	87042424	231.00334	87050124;	-4662.22	10636.62	USAC = 0.00000 ***
TH240022	87050124	256.08936	87050124;	-4762.22	10636.62	USAC = 0.00000 ***
TH240023	87050124	259.92529	87050124;	-4662.22	10636.62	USAC = 0.00000 ***
TH240024	87050124	257.50311	87050124;	-4562.22	10636.62	USAC = 0.00000 ***
TH240025	87050124	251.33461	87050124;	-4462.22	10636.62	USAC = 0.00000 ***
TH240026	87050124	243.19925	87050124;	-4362.22	10636.62	USAC = 0.00000 ***
TH240027	87050124	234.20825	87050124;	-4262.22	10636.62	USAC = 0.00000 ***
TH240028	87050124	244.61974	87050124;	-4762.22	10736.62	USAC = 0.00000 ***
TH240029	87050124	243.80696	87050124;	-4662.22	10736.62	USAC = 0.00000 ***
TH240030	87050124	238.67160	87050124;	-4562.22	10736.62	USAC = 0.00000 ***
TH240031	87050124	231.15424	87050124;	-4462.22	10736.62	USAC = 0.00000 ***
TH240032	87050824	229.14516	87050824;	-4762.22	10936.62	USAC = 0.00000 ***
TH240033	87050824	230.43066	87050824;	-4662.22	10936.62	USAC = 0.00000 ***
TH240034	87071424	236.16731	87071424;	-4362.22	10236.62	USAC = 0.00000 ***
TH240035	87071424	232.59927	87071424;	-4262.22	10236.62	USAC = 0.00000 ***
TH240036	87071424	239.29390	87071424;	-4662.22	10336.62	USAC = 0.00000 ***
TH240037	87071424	248.55380	87071424;	-4562.22	10336.62	USAC = 0.00000 ***
TH240038	87071424	241.68997	87071424;	-4462.22	10336.62	USAC = 0.00000 ***
TH240039	87071424	238.68286	87071424;	-4762.22	10436.62	USAC = 0.00000 ***
TH240040	87071424	231.40109	87071424;	-4662.22	10436.62	USAC = 0.00000 ***
TH240041	87091924	237.80191	87091924;	-4762.22	10636.62	USAC = 0.00000 ***
TH240042	87091924	238.82964	87091924;	-4662.22	10636.62	USAC = 0.00000 ***
TH240043	87091924	234.76062	87091924;	-4562.22	10636.62	USAC = 0.00000 ***
H1H24001	87050124	259.92529	87040624;	-4762.22	10736.62	USAC = 0.00000 ***
TH240001	87040624	236.06146	87040624;	-4662.22	10736.62	USAC = 0.00000 ***
TH240002	87040624	231.31818	87040624;	-4762.22	10836.62	USAC = 0.00000 ***
TH240003	87040624	259.07553	87040624;	-4662.22	10836.62	USAC = 0.00000 ***
TH240004	87040624	256.30273	87040624;	-4562.22	10836.62	USAC = 0.00000 ***
TH240005	87040624	249.82761	87040624;	-4462.22	10836.62	USAC = 0.00000 ***
TH240006	87040624	241.45158	87040624;	-4362.22	10836.62	USAC = 0.00000 ***
TH240007	87040624	231.76837	87041024;	-4662.22	10536.62	USAC = 0.00000 ***
TH240008	87041024	230.80225	87041024;	-4562.22	10536.62	USAC = 0.00000 ***
TH240009	87041024	239.79283	87041024;	-4462.22	10536.62	USAC = 0.00000 ***
TH240010	87041024	240.86980	87041024;	-4362.22	10536.62	USAC = 0.00000 ***
TH240011	87041024	236.80843	87041024;	-4262.22	10536.62	USAC = 0.00000 ***
TH240012	87041024	229.79604	87041024;	-4762.22	10636.62	USAC = 0.00000 ***
TH240013	87041024	248.84459	87041024;	-4662.22	10636.62	USAC = 0.00000 ***
TH240014	87041024	248.38121	87041024;	-4562.22	10636.62	USAC = 0.00000 ***
TH240015	87041024	242.14792	87041024;	-4462.22	10636.62	USAC = 0.00000 ***
TH240016	87041024	232.74844	87042424;	-4762.22	10736.62	USAC = 0.00000 ***
TH240017	87042424	228.72713	87042424;	-4662.22	10736.62	USAC = 0.00000 ***
TH240018	87042424	229.14398	87042424;	-4762.22	10836.62	USAC = 0.00000 ***
TH240019	87042424	231.54150	87042424;	-4662.22	10836.62	USAC = 0.00000 ***
TH240020	87042424	233.74548	87042424;	-4562.22	10836.62	USAC = 0.00000 ***
TH240021	87042424	231.00334	87050124;	-4662.22	10636.62	USAC = 0.00000 ***
TH240022	87050124	256.08936	87050124;	-4762.22	10636.62	USAC = 0.00000 ***
TH240023	87050124	259.92529	87050124;	-4662.22	10636.62	USAC = 0.00000 ***
TH240024	87050124	257.50311	87050124;	-4562.22	10636.62	USAC = 0.00000 ***
TH240025	87050124	251.33461	87050124;	-4462.22	10636.62	USAC = 0.00000 ***
TH240026	87050124	243.19925	87050124;	-4362.22	10636.62	USAC = 0.00000 ***
TH240027	87050124	234.20825	87050124;	-4262.22	10636.62	USAC = 0.00000 ***
TH240028	87050124	244.61974	87050124;	-4762.22	10736.62	USAC = 0.00000 ***
TH240029	87050124	243.80696	87050124;	-4662.22	10736.62	USAC = 0.00000 ***
TH240030	87050124	238.67160	87050124;	-4562.22	10736.62	USAC = 0.00000 ***
TH240031	87050124	231.15424	87050124;	-4462.22	10736.62	USAC = 0.00000 ***
TH240032	87050824	229.14516	87050824;	-4762.22	10936.62	USAC = 0.00000 ***
TH240033	87050824	230.43066	87050824;	-4662.22	10936.62	USAC = 0.00000 ***
TH240034	87071424	236.16731	87071424;	-4362.22	10236.62	USAC = 0.00000 ***

ISC DESIGNATION	YEAR/MONTH DAY/HOUR	INVENTORY CONTRIBUTION	YEAR/MONTH DAY/HOUR	RECEPTOR LOCATION		USAC CONTRIBUTION
				EAST (M)	WEST (M)	
TH240035	87071424	232.59927	87071424;	-4262.22	10236.62	USAC = 0.00000 ***
TH240036	87071424	239.29390	87071424;	-4662.22	10336.62	USAC = 0.00000 ***
TH240037	87071424	248.55380	87071424;	-4562.22	10336.62	USAC = 0.00000 ***
TH240038	87071424	241.68997	87071424;	-4462.22	10336.62	USAC = 0.00000 ***
TH240039	87071424	238.68286	87071424;	-4762.22	10436.62	USAC = 0.00000 ***
TH240040	87071424	231.40109	87071424;	-4662.22	10436.62	USAC = 0.00000 ***
TH240041	87091924	237.80191	87091924;	-4762.22	10636.62	USAC = 0.00000 ***
TH240042	87091924	238.82964	87091924;	-4662.22	10636.62	USAC = 0.00000 ***
TH240043	87091924	234.76062	87091924;	-4562.22	10636.62	USAC = 0.00000 ***
H1H24001	89070424	275.65573	89030724;	-5500.00	8826.28	USAC = 0.00000 ***
TH240001	89030724	234.34224	89030724;	-5400.00	8826.28	USAC = 0.00000 ***
TH240002	89030724	245.30653	89030724;	-5300.00	8826.28	USAC = 0.00000 ***
TH240003	89030724	240.72571	89030724;	-5500.00	8926.28	USAC = 0.00000 ***
TH240004	89030724	231.16046	89030724;	-5400.00	8926.28	USAC = 0.00000 ***
TH240005	89030724	240.95070	89030724;	-5300.00	8926.28	USAC = 0.00000 ***
TH240006	89030724	233.66057	89030724;	-5400.00	9026.28	USAC = 0.00000 ***
TH240007	89030724	235.61511	89030724;	-5400.00	9126.28	USAC = 0.00000 ***
TH240008	89030724	229.21428	89040624;	-5500.00	9526.28	USAC = 0.00000 ***
TH240009	89040624	229.86299	89040624;	-5500.00	9626.28	USAC = 0.00000 ***
TH240010	89040624	237.23819	89040624;	-5500.00	9726.28	USAC = 0.00000 ***
TH240011	89040624	241.10989	89040624;	-5600.00	9826.28	USAC = 0.00000 ***
TH240012	89040624	230.73804	89040624;	-5500.00	9826.28	USAC = 0.00000 ***
TH240013	89040624	238.09233	89040624;	-5600.00	9926.28	USAC = 0.00000 ***
TH240014	89040624	230.72000	89050224;	-4900.00	9626.28	USAC = 0.00000 ***
TH240015	89050224	228.57281	89050224;	-5000.00	9726.28	USAC = 0.00000 ***
TH240016	89050224	238.55251	89050224;	-5100.00	9826.28	USAC = 0.00000 ***
TH240017	89050224	241.66270	89050224;	-5000.00	9826.28	USAC = 0.00000 ***
TH240018	89050224	236.79933	89050224;	-5200.00	9926.28	USAC = 0.00000 ***
TH240019	89050224	236.42010	89050224;	-5100.00	9926.28	USAC = 0.00000 ***
TH240020	89050224	250.22670	89050224;	-5200.00	10026.28	USAC = 0.00000 ***
TH240021	89050224	250.70393	89050224;	-5100.00	10026.28	USAC = 0.00000 ***
TH240022	89050224	229.36162	89050224;	-5300.00	10126.28	USAC = 0.00000 ***
TH240023	89050224	234.96173	89050224;	-5200.00	10126.28	USAC = 0.00000 ***
TH240024	89050224	238.05421	89050224;	-5300.00	10226.28	USAC = 0.00000 ***
TH240025	89050224	228.42218	89051124;	-5500.00	9826.28	USAC = 0.00000 ***
TH240026	89051124	229.39693	89051124;	-5500.00	9926.28	USAC = 0.00000 ***
TH240027	89051124	233.77882	89051124;	-5500.00	10026.28	USAC = 0.00000 ***
TH240028	89051124	230.39211	89070424;	-5400.00	10026.28	USAC = 0.00000 ***
TH240029	89070424	231.14812	89070424;	-5200.00	9526.28	USAC = 0.00000 ***
TH240030	89070424	243.34947	89070424;	-5300.00	9626.28	USAC = 0.00000 ***
TH240031	89070424	235.18074	89070424;	-5200.00	9626.28	USAC = 0.00000 ***
TH240032	89070424	255.92760	89070424;	-5300.00	9726.28	USAC = 0.00000 ***
TH240033	89070424	233.65956	89070424;	-5200.00	9726.28	USAC = 0.00000 ***
TH240034	89070424	247.22032	89070424;	-5400.00	9826.28	USAC = 0.00000 ***
TH240035	89070424	261.93253	89070424;	-5300.00	9826.28	USAC = 0.00000 ***
TH240036	89070424	266.68695	89070424;	-5400.00	9926.28	USAC = 0.00000 ***
TH240037	89070424	259.25580	89070424;	-5300.00	9926.28	USAC = 0.00000 ***
TH240038	89070424	275.65573	89070424;	-5400.00	10026.28	USAC = 0.00000 ***
TH240039	89070424	247.67610	89070424;	-5300.00	10026.28	USAC = 0.00000 ***
TH240040	89070424	267.46301	89070424;	-5400.00	10126.28	USAC = 0.00000 ***
TH240041	89070424	229.51810	89070424;	-5500.00	10226.28	USAC = 0.00000 ***
TH240042	89070424	234.85187	89070424;	-5400.00	10226.28	USAC = 0.00000 ***
TH240043	89081724	244.46892	89081724;	-4900.00	10726.28	USAC = 0.00000 ***
TH240044	89081724	251.71498	89081724;	-4800.00	10726.28	USAC = 0.00000 ***
TH240045	89081724	251.09904	89081724;	-4700.00	10726.28	USAC = 0.00000 ***
TH240046	89081724	245.41257	89081724;	-4600.00	10726.28	USAC = 0.00000 ***
TH240047	89081724	236.69427	89081724;	-4500.00	10726.28	USAC = 0.00000 ***
TH240048	89081724	237.13135	89081724;	-4900.00	10826.28	USAC = 0.00000 ***
TH240049	89081724	246.03874	89081724;	-4800.00	10826.28	USAC = 0.00000 ***
TH240050	89081724	247.98196	89081724;	-4700.00	10826.28	USAC = 0.00000 ***
TH240051	89081724	245.16888	89081724;	-4600.00	10826.28	USAC = 0.00000 ***
TH240052	89081724	238.94221	89081724;	-4500.00	10826.28	USAC = 0.00000 ***
TH240053	89091824	231.30109	89091824;	-5900.00	9726.28	USAC = 0.00000 ***
TH240054	89091824	249.03174	89091824;	-5900.00	9826.28	USAC = 0.00000 ***
TH240055	89091824	249.66095	89091824;	-5900.00	9926.28	USAC = 0.00000 ***
TH240056	89091824	228.95888	89091824;	-5800.00	10026.28	USAC = 0.00000 ***
TH240057	89091824	238.36450	89091824;	-5800.00	10126.28	USAC = 0.00000 ***
H1H24001	89030724	256.56665	89030724;	-5142.30	7128.36	USAC = 0.00000 ***
TH240001	89030724	228.25398	89030724;	-4942.30	5428.36	USAC = 0.00000 ***
TH240002	89030724	228.42493	89030724;	-5042.30	5528.36	USAC = 0.00000 ***
TH240003	89030724	230.06561	89030724;	-4942.30	5528.36	USAC = 0.00000 ***
TH240004	89030724	228.85469	89030724;	-4842.30	5528.36	USAC = 0.00000 ***
TH240005	89030724	228.03688	89030724;	-5142.30	5628.36	USAC = 0.00000 ***
TH240006	89030724	230.41211	89030724;	-5042.30	5628.36	USAC = 0.00000 ***
TH240007	89030724	231.83620	89030724;	-4942.30	5628.36	USAC = 0.00000 ***
TH240008	89030724	230.02275	89030724;	-4842.30	5628.36	USAC = 0.00000 ***
TH240009	89030724	228.21474	89030724;	-5242.30	5728.36	USAC = 0.00000 ***
TH240010	89030724	229.95647	89030724;	-5142.30	5728.36	USAC = 0.00000 ***

ISC DESIGNATION	YEAR/MONTH DAY/HOUR	INVENTORY CONTRIBUTION	YEAR/MONTH DAY/HOUR	RECEPTOR LOCATION EAST (M)	RECEPTOR LOCATION WEST (M)	USAC CONTRIBUTION
TH240011	89030724	232.40747	89030724;	-5042.30	5728.36	USAC = 0.00000 ***
TH240012	89030724	233.55202	89030724;	-4942.30	5728.36	USAC = 0.00000 ***
TH240013	89030724	231.06087	89030724;	-4842.30	5728.36	USAC = 0.00000 ***
TH240014	89030724	228.98628	89030724;	-5342.30	5828.36	USAC = 0.00000 ***
TH240015	89030724	229.93365	89030724;	-5242.30	5828.36	USAC = 0.00000 ***
TH240016	89030724	231.91011	89030724;	-5142.30	5828.36	USAC = 0.00000 ***
TH240017	89030724	234.40208	89030724;	-5042.30	5828.36	USAC = 0.00000 ***
TH240018	89030724	235.19710	89030724;	-4942.30	5828.36	USAC = 0.00000 ***
TH240019	89030724	231.95245	89030724;	-4842.30	5828.36	USAC = 0.00000 ***
TH240020	89030724	228.84869	89030724;	-5442.30	5928.36	USAC = 0.00000 ***
TH240021	89030724	230.48524	89030724;	-5342.30	5928.36	USAC = 0.00000 ***
TH240022	89030724	231.68715	89030724;	-5242.30	5928.36	USAC = 0.00000 ***
TH240023	89030724	233.89433	89030724;	-5142.30	5928.36	USAC = 0.00000 ***
TH240024	89030724	236.38586	89030724;	-5042.30	5928.36	USAC = 0.00000 ***
TH240025	89030724	236.75446	89030724;	-4942.30	5928.36	USAC = 0.00000 ***
TH240026	89030724	232.67824	89030724;	-4842.30	5928.36	USAC = 0.00000 ***
TH240027	89030724	230.12415	89030724;	-5442.30	6028.36	USAC = 0.00000 ***
TH240028	89030724	232.00623	89030724;	-5342.30	6028.36	USAC = 0.00000 ***
TH240029	89030724	233.47511	89030724;	-5242.30	6028.36	USAC = 0.00000 ***
TH240030	89030724	235.90483	89030724;	-5142.30	6028.36	USAC = 0.00000 ***
TH240031	89030724	238.34679	89030724;	-5042.30	6028.36	USAC = 0.00000 ***
TH240032	89030724	238.20525	89030724;	-4942.30	6028.36	USAC = 0.00000 ***
TH240033	89030724	233.21910	89030724;	-4842.30	6028.36	USAC = 0.00000 ***
TH240034	89030724	231.40611	89030724;	-5442.30	6128.36	USAC = 0.00000 ***
TH240035	89030724	233.54955	89030724;	-5342.30	6128.36	USAC = 0.00000 ***
TH240036	89030724	235.29665	89030724;	-5242.30	6128.36	USAC = 0.00000 ***
TH240037	89030724	237.93602	89030724;	-5142.30	6128.36	USAC = 0.00000 ***
TH240038	89030724	240.27046	89030724;	-5042.30	6128.36	USAC = 0.00000 ***
TH240039	89030724	239.52818	89030724;	-4942.30	6128.36	USAC = 0.00000 ***
TH240040	89030724	233.55591	89030724;	-4842.30	6128.36	USAC = 0.00000 ***
TH240041	89030724	232.69403	89030724;	-5442.30	6228.36	USAC = 0.00000 ***
TH240042	89030724	235.11426	89030724;	-5342.30	6228.36	USAC = 0.00000 ***
TH240043	89030724	237.14998	89030724;	-5242.30	6228.36	USAC = 0.00000 ***
TH240044	89030724	239.98116	89030724;	-5142.30	6228.36	USAC = 0.00000 ***
TH240045	89030724	242.14075	89030724;	-5042.30	6228.36	USAC = 0.00000 ***
TH240046	89030724	240.70122	89030724;	-4942.30	6228.36	USAC = 0.00000 ***
TH240047	89030724	233.66901	89030724;	-4842.30	6228.36	USAC = 0.00000 ***
TH240048	89030724	228.16272	89030724;	-5542.30	6328.36	USAC = 0.00000 ***
TH240049	89030724	233.98671	89030724;	-5442.30	6328.36	USAC = 0.00000 ***
TH240050	89030724	236.69994	89030724;	-5342.30	6328.36	USAC = 0.00000 ***
TH240051	89030724	239.03313	89030724;	-5242.30	6328.36	USAC = 0.00000 ***
TH240052	89030724	242.03117	89030724;	-5142.30	6328.36	USAC = 0.00000 ***
TH240053	89030724	243.93880	89030724;	-5042.30	6328.36	USAC = 0.00000 ***
TH240054	89030724	241.70027	89030724;	-4942.30	6328.36	USAC = 0.00000 ***
TH240055	89030724	233.53877	89030724;	-4842.30	6328.36	USAC = 0.00000 ***
TH240056	89030724	229.06380	89030724;	-5542.30	6428.36	USAC = 0.00000 ***
TH240057	89030724	235.28302	89030724;	-5442.30	6428.36	USAC = 0.00000 ***
TH240058	89030724	238.30568	89030724;	-5342.30	6428.36	USAC = 0.00000 ***
TH240059	89030724	240.94298	89030724;	-5242.30	6428.36	USAC = 0.00000 ***
TH240060	89030724	244.07562	89030724;	-5142.30	6428.36	USAC = 0.00000 ***
TH240061	89030724	245.64299	89030724;	-5042.30	6428.36	USAC = 0.00000 ***
TH240062	89030724	242.49916	89030724;	-4942.30	6428.36	USAC = 0.00000 ***
TH240063	89030724	233.14638	89030724;	-4842.30	6428.36	USAC = 0.00000 ***
TH240064	89030724	229.94603	89030724;	-5542.30	6528.36	USAC = 0.00000 ***
TH240065	89030724	236.58105	89030724;	-5442.30	6528.36	USAC = 0.00000 ***
TH240066	89030724	239.92998	89030724;	-5342.30	6528.36	USAC = 0.00000 ***
TH240067	89030724	242.87538	89030724;	-5242.30	6528.36	USAC = 0.00000 ***
TH240068	89030724	246.10078	89030724;	-5142.30	6528.36	USAC = 0.00000 ***
TH240069	89030724	247.22906	89030724;	-5042.30	6528.36	USAC = 0.00000 ***
TH240070	89030724	243.07155	89030724;	-4942.30	6528.36	USAC = 0.00000 ***
TH240071	89030724	232.47377	89030724;	-4842.30	6528.36	USAC = 0.00000 ***
TH240072	89030724	230.80672	89030724;	-5542.30	6628.36	USAC = 0.00000 ***
TH240073	89030724	237.87891	89030724;	-5442.30	6628.36	USAC = 0.00000 ***
TH240074	89030724	241.57051	89030724;	-5342.30	6628.36	USAC = 0.00000 ***
TH240075	89030724	244.82489	89030724;	-5242.30	6628.36	USAC = 0.00000 ***
TH240076	89030724	248.09142	89030724;	-5142.30	6628.36	USAC = 0.00000 ***
TH240077	89030724	248.66969	89030724;	-5042.30	6628.36	USAC = 0.00000 ***
TH240078	89030724	243.38957	89030724;	-4942.30	6628.36	USAC = 0.00000 ***
TH240079	89030724	231.50313	89030724;	-4842.30	6628.36	USAC = 0.00000 ***
TH240080	89030724	231.63800	89030724;	-5542.30	6728.36	USAC = 0.00000 ***
TH240081	89030724	239.16846	89030724;	-5442.30	6728.36	USAC = 0.00000 ***
TH240082	89030724	243.22002	89030724;	-5342.30	6728.36	USAC = 0.00000 ***
TH240083	89030724	246.78113	89030724;	-5242.30	6728.36	USAC = 0.00000 ***
TH240084	89030724	250.02553	89030724;	-5142.30	6728.36	USAC = 0.00000 ***
TH240085	89030724	249.93309	89030724;	-5042.30	6728.36	USAC = 0.00000 ***
TH240086	89030724	243.42474	89030724;	-4942.30	6728.36	USAC = 0.00000 ***
TH240087	89030724	230.21840	89030724;	-4842.30	6728.36	USAC = 0.00000 ***
TH240088	89030724	232.40273	89030724;	-5542.30	6828.36	USAC = 0.00000 ***
TH240089	89030724	240.42024	89030724;	-5442.30	6828.36	USAC = 0.00000 ***
TH240090	89030724	244.85411	89030724;	-5342.30	6828.36	USAC = 0.00000 ***
TH240091	89030724	248.71248	89030724;	-5242.30	6828.36	USAC = 0.00000 ***
TH240092	89030724	251.85699	89030724;	-5142.30	6828.36	USAC = 0.00000 ***

ISC DESIGNATION	YEAR/MONTH DAY/HOUR	INVENTORY CONTRIBUTION	YEAR/MONTH DAY/HOUR	RECEPTOR EAST (M)	LOCATION WEST (M)	USAC CONTRIBUTION
TH240093	89030724	250.96257	89030724;	-5042.30	6828.36	USAC = 0.00000 ***
TH240094	89030724	243.12834	89030724;	-4942.30	6828.36	USAC = 0.00000 ***
TH240095	89030724	228.59027	89030724;	-4842.30	6828.36	USAC = 0.00000 ***
TH240096	89030724	233.13377	89030724;	-5542.30	6928.36	USAC = 0.00000 ***
TH240097	89030724	241.66167	89030724;	-5442.30	6928.36	USAC = 0.00000 ***
TH240098	89030724	246.49188	89030724;	-5342.30	6928.36	USAC = 0.00000 ***
TH240099	89030724	250.62830	89030724;	-5242.30	6928.36	USAC = 0.00000 ***
TH240100	89030724	253.57603	89030724;	-5142.30	6928.36	USAC = 0.00000 ***
TH240101	89030724	251.73537	89030724;	-5042.30	6928.36	USAC = 0.00000 ***
TH240102	89030724	242.48170	89030724;	-4942.30	6928.36	USAC = 0.00000 ***
TH240103	89030724	233.82704	89030724;	-5542.30	7028.36	USAC = 0.00000 ***
TH240104	89030724	242.88823	89030724;	-5442.30	7028.36	USAC = 0.00000 ***
TH240105	89030724	248.12782	89030724;	-5342.30	7028.36	USAC = 0.00000 ***
TH240106	89030724	252.51544	89030724;	-5242.30	7028.36	USAC = 0.00000 ***
TH240107	89030724	255.15764	89030724;	-5142.30	7028.36	USAC = 0.00000 ***
TH240108	89030724	252.22383	89030724;	-5042.30	7028.36	USAC = 0.00000 ***
TH240109	89030724	241.47168	89030724;	-4942.30	7028.36	USAC = 0.00000 ***
TH240110	89030724	234.47795	89030724;	-5542.30	7128.36	USAC = 0.00000 ***
TH240111	89030724	244.09502	89030724;	-5442.30	7128.36	USAC = 0.00000 ***
TH240112	89030724	249.75470	89030724;	-5342.30	7128.36	USAC = 0.00000 ***
TH240113	89030724	254.35602	89030724;	-5242.30	7128.36	USAC = 0.00000 ***
TH240114	89030724	256.56665	89030724;	-5142.30	7128.36	USAC = 0.00000 ***
TH240115	89030724	252.38916	89030724;	-5042.30	7128.36	USAC = 0.00000 ***
TH240116	89030724	240.07324	89030724;	-4942.30	7128.36	USAC = 0.00000 ***
H1H24001	90062024	294.50577	90042224;	-4762.22	10736.62	USAC = 0.00000 ***
TH240001	90042224	236.38934	90042224;	-4662.22	10736.62	USAC = 0.00000 ***
TH240002	90042224	235.11440	90042224;	-4562.22	10736.62	USAC = 0.00000 ***
TH240003	90042224	230.44542	90042224;	-4762.22	10836.62	USAC = 0.00000 ***
TH240004	90042224	233.24016	90042224;	-4662.22	10836.62	USAC = 0.00000 ***
TH240005	90042224	236.17833	90042224;	-4562.22	10836.62	USAC = 0.00000 ***
TH240006	90042224	233.79259	90042224;	-4462.22	10836.62	USAC = 0.00000 ***
TH240007	90042224	228.08734	90060524;	-4362.22	10436.62	USAC = 0.00000 ***
TH240008	90060524	229.00047	90060524;	-4762.22	10536.62	USAC = 0.00000 ***
TH240009	90060524	230.73271	90060524;	-4662.22	10536.62	USAC = 0.00000 ***
TH240010	90060524	236.25848	90060524;	-4562.22	10536.62	USAC = 0.00000 ***
TH240011	90060524	234.54065	90060524;	-4462.22	10536.62	USAC = 0.00000 ***
TH240012	90060524	228.77940	90060624;	-4662.22	10436.62	USAC = 0.00000 ***
TH240013	90060624	232.11687	90060624;	-4562.22	10436.62	USAC = 0.00000 ***
TH240014	90060624	231.86404	90060624;	-4762.22	10536.62	USAC = 0.00000 ***
TH240015	90060624	242.70345	90060624;	-4662.22	10536.62	USAC = 0.00000 ***
TH240016	90060624	239.77791	90060624;	-4562.22	10536.62	USAC = 0.00000 ***
TH240017	90060624	230.30151	90062024;	-4762.22	10736.62	USAC = 0.00000 ***
TH240018	90062024	294.50577	90062024;	-4762.22	10736.62	USAC = 0.00000 ***
TH240019	90062024	285.96152	90062024;	-4662.22	10736.62	USAC = 0.00000 ***
TH240020	90062024	273.65533	90062024;	-4562.22	10736.62	USAC = 0.00000 ***
TH240021	90062024	259.83185	90062024;	-4462.22	10736.62	USAC = 0.00000 ***
TH240022	90062024	245.87526	90062024;	-4362.22	10736.62	USAC = 0.00000 ***
TH240023	90062024	232.51817	90062024;	-4262.22	10736.62	USAC = 0.00000 ***
TH240024	90062024	293.15964	90062024;	-4762.22	10836.62	USAC = 0.00000 ***
TH240025	90062024	293.07089	90062024;	-4662.22	10836.62	USAC = 0.00000 ***
TH240026	90062024	287.11047	90062024;	-4562.22	10836.62	USAC = 0.00000 ***
TH240027	90062024	277.65732	90062024;	-4462.22	10836.62	USAC = 0.00000 ***
TH240028	90062024	266.45511	90062024;	-4362.22	10836.62	USAC = 0.00000 ***
TH240029	90062024	254.61609	90062024;	-4262.22	10836.62	USAC = 0.00000 ***
TH240030	90062024	242.82771	90062024;	-4162.22	10836.62	USAC = 0.00000 ***
TH240031	90062024	231.49229	90062024;	-4062.22	10836.62	USAC = 0.00000 ***
TH240032	90070124	232.68758	90070124;	-4562.22	10636.62	USAC = 0.00000 ***
TH240033	90070124	234.97150	90070124;	-4462.22	10636.62	USAC = 0.00000 ***
TH240034	90070124	233.88910	90070124;	-4362.22	10636.62	USAC = 0.00000 ***
TH240035	90070124	230.51405	90070124;	-4262.22	10636.62	USAC = 0.00000 ***
TH240036	90070124	230.91751	90070124;	-4762.22	10736.62	USAC = 0.00000 ***
TH240037	90070124	233.55182	90070124;	-4662.22	10736.62	USAC = 0.00000 ***
TH240038	90070124	232.14261	90070124;	-4562.22	10736.62	USAC = 0.00000 ***
TH240039	90080124	234.35495	90080124;	-4662.22	10436.62	USAC = 0.00000 ***
TH240040	90080124	240.84001	90080124;	-4562.22	10436.62	USAC = 0.00000 ***
TH240041	90080124	239.08957	90080124;	-4462.22	10436.62	USAC = 0.00000 ***
TH240042	90080124	231.82436	90080124;	-4362.22	10436.62	USAC = 0.00000 ***
TH240043	90080124	248.92871	90080124;	-4762.22	10536.62	USAC = 0.00000 ***
TH240044	90080124	242.67546	90080124;	-4662.22	10536.62	USAC = 0.00000 ***
TH240045	90080124	231.69330	90080124;	-4562.22	10536.62	USAC = 0.00000 ***
TH240046	90091524	243.87381	90091524;	-4762.22	10536.62	USAC = 0.00000 ***
TH240047	90091524	245.44299	90091524;	-4662.22	10536.62	USAC = 0.00000 ***
TH240048	90091524	237.14084	90091524;	-4562.22	10536.62	USAC = 0.00000 ***
TH240049	90112324	229.58298	90112324;	-4762.22	10736.62	USAC = 0.60496 ***
TH240050	90112324	229.48280	90112324;	-4662.22	10736.62	USAC = 0.46922 ***
H1H24001	90062024	294.50577	90042224;	-4762.22	10736.62	USAC = 0.00000 ***
TH240001	90042224	236.38934	90042224;	-4662.22	10736.62	USAC = 0.00000 ***
TH240002	90042224	235.11440	90042224;	-4562.22	10736.62	USAC = 0.00000 ***
TH240003	90042224	230.44542	90042224;	-4762.22	10836.62	USAC = 0.00000 ***
TH240004	90042224	233.24016	90042224;	-4662.22	10836.62	USAC = 0.00000 ***

ISC DESIGNATION	YEAR/MONTH DAY/HOUR	INVENTORY CONTRIBUTION	YEAR/MONTH DAY/HOUR	RECEPTOR EAST (M)	LOCATION WEST (M)	USAC CONTRIBUTION
TH240005	90042224	236.17833	90042224;	-4562.22	10836.62	USAC = 0.00000 ***
TH240006	90042224	233.79259	90042224;	-4462.22	10836.62	USAC = 0.00000 ***
TH240007	90042224	228.08734	90060524;	-4362.22	10436.62	USAC = 0.00000 ***
TH240008	90060524	229.00047	90060524;	-4762.22	10536.62	USAC = 0.00000 ***
TH240009	90060524	230.73271	90060524;	-4662.22	10536.62	USAC = 0.00000 ***
TH240010	90060524	236.25848	90060524;	-4562.22	10536.62	USAC = 0.00000 ***
TH240011	90060524	234.54065	90060524;	-4462.22	10536.62	USAC = 0.00000 ***
TH240012	90060524	228.77940	90060624;	-4662.22	10436.62	USAC = 0.00000 ***
TH240013	90060624	232.11687	90060624;	-4562.22	10436.62	USAC = 0.00000 ***
TH240014	90060624	231.86404	90060624;	-4762.22	10536.62	USAC = 0.00000 ***
TH240015	90060624	242.70345	90060624;	-4662.22	10536.62	USAC = 0.00000 ***
TH240016	90060624	239.77791	90060624;	-4562.22	10536.62	USAC = 0.00000 ***
TH240017	90060624	230.30151	90062024;	-4762.22	10736.62	USAC = 0.00000 ***
TH240018	90062024	294.50577	90062024;	-4762.22	10736.62	USAC = 0.00000 ***
TH240019	90062024	285.96152	90062024;	-4662.22	10736.62	USAC = 0.00000 ***
TH240020	90062024	273.65533	90062024;	-4562.22	10736.62	USAC = 0.00000 ***
TH240021	90062024	259.83185	90062024;	-4462.22	10736.62	USAC = 0.00000 ***
TH240022	90062024	245.87526	90062024;	-4362.22	10736.62	USAC = 0.00000 ***
TH240023	90062024	232.51817	90062024;	-4262.22	10736.62	USAC = 0.00000 ***
TH240024	90062024	293.15964	90062024;	-4762.22	10836.62	USAC = 0.00000 ***
TH240025	90062024	293.07089	90062024;	-4662.22	10836.62	USAC = 0.00000 ***
TH240026	90062024	287.11047	90062024;	-4562.22	10836.62	USAC = 0.00000 ***
TH240027	90062024	277.65732	90062024;	-4462.22	10836.62	USAC = 0.00000 ***
TH240028	90062024	266.45511	90062024;	-4362.22	10836.62	USAC = 0.00000 ***
TH240029	90062024	254.61609	90062024;	-4262.22	10836.62	USAC = 0.00000 ***
TH240030	90062024	242.82771	90062024;	-4162.22	10836.62	USAC = 0.00000 ***
TH240031	90062024	231.49229	90062024;	-4062.22	10836.62	USAC = 0.00000 ***
TH240032	90070124	232.68758	90070124;	-4562.22	10636.62	USAC = 0.00000 ***
TH240033	90070124	234.97150	90070124;	-4462.22	10636.62	USAC = 0.00000 ***
TH240034	90070124	233.88910	90070124;	-4362.22	10636.62	USAC = 0.00000 ***
TH240035	90070124	230.51405	90070124;	-4262.22	10636.62	USAC = 0.00000 ***
TH240036	90070124	230.91751	90070124;	-4762.22	10736.62	USAC = 0.00000 ***
TH240037	90070124	233.55182	90070124;	-4662.22	10736.62	USAC = 0.00000 ***
TH240038	90070124	232.14261	90070124;	-4562.22	10736.62	USAC = 0.00000 ***
TH240039	90080124	234.35495	90080124;	-4662.22	10436.62	USAC = 0.00000 ***
TH240040	90080124	240.84001	90080124;	-4562.22	10436.62	USAC = 0.00000 ***
TH240041	90080124	239.08957	90080124;	-4462.22	10436.62	USAC = 0.00000 ***
TH240042	90080124	231.82436	90080124;	-4362.22	10436.62	USAC = 0.00000 ***
TH240043	90080124	248.92871	90080124;	-4762.22	10536.62	USAC = 0.00000 ***
TH240044	90080124	242.67546	90080124;	-4662.22	10536.62	USAC = 0.00000 ***
TH240045	90080124	231.69330	90080124;	-4562.22	10536.62	USAC = 0.00000 ***
TH240046	90091524	243.87381	90091524;	-4762.22	10536.62	USAC = 0.00000 ***
TH240047	90091524	245.44299	90091524;	-4662.22	10536.62	USAC = 0.00000 ***
TH240048	90091524	237.14084	90091524;	-4562.22	10536.62	USAC = 0.00000 ***
TH240049	90112324	229.58298	90112324;	-4762.22	10736.62	USAC = 0.60496 ***
TH240050	90112324	229.48280	90112324;	-4662.22	10736.62	USAC = 0.46922 ***
H1H24001	91051424	276.30640	91051424;	-4762.22	10836.62	USAC = 0.00000 ***
TH240001	91051424	239.09563	91051424;	-4762.22	10736.62	USAC = 0.00000 ***
TH240002	91051424	231.50995	91051424;	-4662.22	10736.62	USAC = 0.00000 ***
TH240003	91051424	276.30640	91051424;	-4762.22	10836.62	USAC = 0.00000 ***
TH240004	91051424	273.27130	91051424;	-4662.22	10836.62	USAC = 0.00000 ***
TH240005	91051424	264.86230	91051424;	-4562.22	10836.62	USAC = 0.00000 ***
TH240006	91051424	253.39287	91051424;	-4462.22	10836.62	USAC = 0.00000 ***
TH240007	91051424	240.56839	91051424;	-4362.22	10836.62	USAC = 0.00000 ***
TH240008	91051424	234.02809	91051424;	-4562.22	10936.62	USAC = 0.00000 ***
TH240009	91051424	235.47285	91051424;	-4462.22	10936.62	USAC = 0.00000 ***
TH240010	91051424	232.91360	91051424;	-4362.22	10936.62	USAC = 0.00000 ***
TH240011	91060124	229.60539	91060124;	-4662.22	10736.62	USAC = 0.42341 ***
TH240012	91060124	230.03377	91060124;	-4562.22	10736.62	USAC = 0.39517 ***
TH240013	91060224	234.50822	91060224;	-4562.22	10536.62	USAC = 0.00000 ***
TH240014	91060224	235.46602	91060224;	-4462.22	10536.62	USAC = 0.00000 ***
TH240015	91060224	231.66626	91060224;	-4362.22	10536.62	USAC = 0.00000 ***
TH240016	91060224	269.51224	91060224;	-4762.22	10636.62	USAC = 0.00000 ***
TH240017	91060224	272.40128	91060224;	-4662.22	10636.62	USAC = 0.00000 ***
TH240018	91060224	268.19040	91060224;	-4562.22	10636.62	USAC = 0.00000 ***
TH240019	91060224	259.67877	91060224;	-4462.22	10636.62	USAC = 0.00000 ***
TH240020	91060224	249.02119	91060224;	-4362.22	10636.62	USAC = 0.00000 ***
TH240021	91060224	237.52153	91060224;	-4262.22	10636.62	USAC = 0.00000 ***
TH240022	91060224	234.46086	91060224;	-4762.22	10736.62	USAC = 0.00000 ***
TH240023	91060224	235.31750	91060224;	-4662.22	10736.62	USAC = 0.00000 ***
TH240024	91060224	231.40244	91060224;	-4562.22	10736.62	USAC = 0.00000 ***
TH240025	91070724	234.17247	91070724;	-4762.22	10836.62	USAC = 0.00016 ***
TH240026	91071024	234.77112	91071024;	-4762.22	10636.62	USAC = 0.56843 ***
TH240027	91071024	230.25751	91071024;	-4662.22	10636.62	USAC = 0.63350 ***
TH240028	91080924	235.81720	91080924;	-4762.22	10436.62	USAC = 0.00000 ***

THIS DISK CONTAIN SULFUR DIOXIDE (SO2) MODELING FILES FOR THE  
U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES ARE:

AQS-INV	EXE	493,678	08-10-00	SO2 FAAQS STANDARD ANALYSIS
GRID	EXE	221,053	08-14-00	REFINED FAAQS STANDARD ANALYSIS
EVNT-IO	EXE	75,262	08-10-00	CULPABILITY ANALYSIS
CULPB	TXT	38,504	08-10-00	CULPABILITY ANALYSIS SUMMARY
README	TXT	7,131	08-14-00	THIS FILE

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT AND CONTAIN  
ISCST3 MODELING:

AQS-INV	EXE	493,678	08-10-00	SO2 FAAQS STANDARD ANALYSIS
GRID	EXE	197,933	08-10-00	REFINED FAAQS STANDARD ANALYSIS
EVNT-IO	EXE	75,262	08-10-00	CULPABILITY ANALYSIS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME.  
FOR EXAMPLE TO UNARCHIVE THE SO2 FAAQS ISCST3 OUTPUT FILES, TYPE:

AQS-INV  
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;

THE FILE AQS-INV.EXE CONTAINS A REVISED FAAQS STANDARD ANALYSIS:

AQS87-3	OUT	268,041	07-31-00	3-HOUR	FAAQS STANDARD FOR 1987
AQS87-24	OUT	284,534	07-31-00	24-HOUR	FAAQS STANDARD FOR 1987
AQS87-AN	OUT	216,053	07-31-00	ANNUAL	FAAQS STANDARD FOR 1987
AQS88-3	OUT	273,402	07-31-00	3-HOUR	FAAQS STANDARD FOR 1988
AQS88-24	OUT	284,534	07-31-00	24-HOUR	FAAQS STANDARD FOR 1988
AQS88-AN	OUT	216,545	07-31-00	ANNUAL	FAAQS STANDARD FOR 1988
AQS89-3	OUT	268,041	07-31-00	3-HOUR	FAAQS STANDARD FOR 1989
AQS89-24	OUT	306,658	07-31-00	24-HOUR	FAAQS STANDARD FOR 1989
AQS89-AN	OUT	218,513	07-31-00	ANNUAL	FAAQS STANDARD FOR 1989
AQS90-3	OUT	269,828	07-31-00	3-HOUR	FAAQS STANDARD FOR 1990
AQS90-24	OUT	273,402	07-31-00	24-HOUR	FAAQS STANDARD FOR 1990
AQS90-AN	OUT	217,037	08-01-00	ANNUAL	FAAQS STANDARD FOR 1990
AQS91-3	OUT	273,402	07-31-00	3-HOUR	FAAQS STANDARD FOR 1991
AQS91-24	OUT	282,747	07-31-00	24-HOUR	FAAQS STANDARD FOR 1991
AQS91-AN	OUT	217,529	07-31-00	ANNUAL	FAAQS STANDARD FOR 1991
C2S02-87	OUT	282,909	04-28-00	3-HOUR	FAAQS STANDARD FOR 1987
C2S02-88	OUT	282,909	04-28-00	24-HOUR	FAAQS STANDARD FOR 1987
C2S02-89	OUT	296,995	04-28-00	ANNUAL	FAAQS STANDARD FOR 1987

RECEPTOR GRIDS OF 2 KM IN WIDTH AND WITH 100 METER SPACING WERE PLACED CENTERED AT THE POLAR MOST EXPOSED INDIVIDUAL (MEI) RECEPTORS. THESE ANALYSIS WERE PERFORMED ON THE 24-HOUR AVERAGING PERIOD FOR THE FOLLOWING MEI LOCATIONS

1987	HIGH	HIGH-SECOND-HIGH (H2H)
1989	HIGH	HIGH-SECOND-HIGH
1990	HIGH	HIGH-SECOND-HIGH
1991	HIGH	

A THRESHOLD VALUE WAS REQUESTED FROM THE PROCESSOR TO FLAG ALL 24-HOUR CONCENTRATIONS OVER 228 UG/M<sup>3</sup> OR:

260 STANDARD - 32 BACKGROUND = 228 THRESHOLD

THE PROCESSOR RETURNED ALL IMPACT LOCATION AND OCCURRENCES OVER THE THRESHOLD AND CONSTRUCTS A CORRESPONDING EVENT FILE FOR THOSE OCCURRENCES. FOLLOWING STANDARD ANALYSIS MODELING ARE PROVIDED IN THE FILE GRID.EXE:

AQS87H2H	INP	41,989	08-10-00	INPUT FILE H2H FOR 1987
AQS87HGH	INP	41,752	08-10-00	INPUT FILE HIGH-HIGH FOR 1987
AQS89H2H	INP	41,655	08-10-00	INPUT FILE H2H FOR 1989
AQS89HGH	INP	41,766	08-10-00	INPUT FILE HIGH-HIGH FOR 1989
AQS90H2H	INP	41,765	08-10-00	INPUT FILE H2H FOR 1990
AQS90HGH	INP	41,766	08-10-00	INPUT FILE HIGH-HIGH FOR 1990
AQS91HGH	INP	41,765	08-10-00	INPUT FILE HIGH-HIGH FOR 1991
AQS87H2H	OUT	123,332	08-10-00	OUTPUT FILE H2H FOR 1987
AQS87HGH	OUT	123,332	08-10-00	OUTPUT FILE HIGH-HIGH FOR 1987
AQS89H2H	OUT	123,332	08-10-00	OUTPUT FILE H2H FOR 1989
AQS89HGH	OUT	123,332	08-10-00	OUTPUT FILE HIGH-HIGH FOR 1989
AQS90H2H	OUT	123,332	08-10-00	OUTPUT FILE H2H FOR 1990
AQS90HGH	OUT	123,332	08-10-00	OUTPUT FILE HIGH-HIGH FOR 1990
AQS91HGH	OUT	123,332	08-10-00	OUTPUT FILE HIGH-HIGH FOR 1991
EV-87H2H	INP	47,059	08-10-00	EVENT INPUT FILE H2H FOR 1987
EV-87HGH	INP	47,059	08-10-00	EVENT INPUT FILE HIGH-HIGH FOR 1987
EV-89H2H	INP	49,103	08-10-00	EVENT INPUT FILE H2H FOR 1989
EV-89HGH	INP	57,717	08-10-00	EVENT INPUT FILE HIGH-HIGH FOR 1989
EV-90H2H	INP	48,081	08-10-00	EVENT INPUT FILE H2H FOR 1990
EV-90HGH	INP	48,081	08-10-00	EVENT INPUT FILE HIGH-HIGH FOR 1990
EV-91HGH	INP	44,869	08-10-00	EVENT INPUT FILE HIGH-HIGH FOR 1991
24-H2H87	PRN	4,121	08-10-00	PLOT FILE H2H FOR 1987
24-H2H89	PRN	5,269	08-10-00	PLOT FILE HIGH-HIGH FOR 1987
24-H2H90	PRN	4,695	08-10-00	PLOT FILE H2H FOR 1989
24-HGH87	PRN	4,121	08-10-00	PLOT FILE HIGH-HIGH FOR 1989
24-HGH89	PRN	10,107	08-10-00	PLOT FILE H2H FOR 1990
24-HGH90	PRN	4,695	08-10-00	PLOT FILE HIGH-HIGH FOR 1990
24-HGH91	PRN	2,891	08-10-00	PLOT FILE HIGH-HIGH FOR 1991

CULPABILITY ANALYSIS WERE THEN PERFORMED ON THESE THRESHOLD EXCEEDENCE. THESE EVENT INPUT FILE WERE REWRITTEN SO AS TO ONLY PREDICT IMPACT FROM THE PROPOSED PROJECT AT USAC. THE FOLLOWING CULPABILITY ANALYSIS FILES ARE PROVIDED IN THE FILE EVNT-IO.EXE:

EV-87H2H INP	13,161	08-07-00	REWRITTEN EVENT INPUT FILE H2H 1987
EV-87HGH INP	13,247	08-07-00	REWRITTEN EVENT INPUT FILE HIGH-HIGH 1987
EV-89H2H INP	15,291	08-07-00	REWRITTEN EVENT INPUT FILE H2H 1989
EV-89HGH INP	23,784	08-07-00	REWRITTEN EVENT INPUT FILE HIGH-HIGH 1989
EV-90H2H INP	14,269	08-07-00	REWRITTEN EVENT INPUT FILE H2H 1990
EV-90HGH INP	14,269	08-07-00	REWRITTEN EVENT INPUT FILE HIGH-HIGH 1990
EV-91HGH INP	11,061	08-07-00	REWRITTEN EVENT INPUT FILE HIGH-HIGH 1991
EV-87H2H OUT	90,385	08-07-00	EVENT OUTPUT FILE H2H FOR 1987
EV-87HGH OUT	90,519	08-07-00	EVENT OUTPUT FILE HIGH-HIGH FOR 1987
EV-89H2H OUT	110,889	08-07-00	EVENT OUTPUT FILE H2H FOR 1989
EV-89HGH OUT	196,685	08-07-00	EVENT OUTPUT FILE HIGH-HIGH FOR 1989
EV-90H2H OUT	100,704	08-07-00	EVENT OUTPUT FILE H2H FOR 1990
EV-90HGH OUT	100,704	08-07-00	EVENT OUTPUT FILE HIGH-HIGH FOR 1990
EV-91HGH OUT	68,962	08-07-00	EVENT OUTPUT FILE HIGH-HIGH FOR 1991

A SUMMARY OF THE ABOVE RESULTS WERE COMPILED FROM THE INVENTORY EVENT INPUT FILES AND THE USAC OUTPUT FILES. THIS FILE COMPARES THE IMPACTS AT EACH RECEPTOR AND OCCURRENCE ABOVE THE THRESHOLD VALUE. THE FILE:

CULPB TXT 38,504 08-10-00

IS A TEXT SUMMARY OF THE CULPABILITY ANALYSIS.

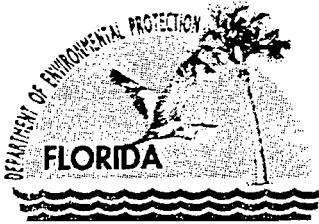
AND:

README TXT 7,131 08-14-00 THIS FILE

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

AUGUST 14, 2000  
MARK KOLETZKE, P.E.  
KOOGLER AND ASSOCIATES  
(352) 377-5822  
KOOGLER@WORLDNET.ATT.NET





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 20, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric and Phosphoric Acid Plant Production Increases

Dear Mr. Vo:

The Department has received your response to our incompleteness letter to you regarding an air construction permit for modification to the existing Sulfuric Acid Plants No. 1 and 2. The response was received on June 23, 2000. In response to our inquiry, you have decided to request an increase in the permitted phosphoric acid production rate of the existing plants. The Department will combine both the sulfuric and phosphoric acid plant production increases into one project. In order to expedite the application, we need the additional information listed below:

1. The application contains only a summary of fluoride stack test data. Please submit the detailed test reports for the 1998 and 1999 annual fluoride stack tests containing data on production rates, stack flows, scrubber conditions, etc. for each test run. Please redo Appendix A of the application by showing actual emissions in terms of lb F/ton  $P_2O_5$ . Also, include additional three years of stack test data summary, if available, for fluoride emissions.
2. Please state the reasons for asking 1.0 lb/hr F emission limit from the Tank Farm area. This emission limit is more than double the actual emissions average submitted with the application.
3. Please submit engineering design data for the venturi scrubbers currently utilized for fluoride control. The data should include at a minimum the design capability; the stated efficiency of the control equipment and the performance curves for the venturi scrubbers.
4. Please provide the cost evaluation of a cross-flow packed scrubber for fluorides control by itself. The cost effectiveness presented in the application is an incremental cost approach that inflated the cost figures.

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**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  
 Gen. Mgr., E&TS  
 U.S. Agri-Chemicals Corp.  
 3225 State Rd. 630 W.  
 Fort Meade, FL 33841

2. Article Number (Copy from service label)

Z 031 392 031

PS Form 3811, July 1999

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

7-24-00

C. Signature  
 if wash  
 Agent  
 Addressee

D. Is delivery address different from item 1?  
 If YES, enter delivery address below:  Yes  No

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

4. Restricted Delivery? (Extra Fee)  Yes

Z 031 392 031

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to	<u>Mr. Phong T. Vo</u>
Street & Number	<u>3225 State Rd 630 West</u>
Post Office, State, & ZIP Code	<u>Fort Meade FL 33841</u>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<u>7/20/00</u> <u>U.S. Agri-Chemicals</u>

PS Form 3800, April 1995

102595-99-M-1789

5. Please provide the permitting history and the recent construction permit for the MAP/DAP plant. Also, indicate the actual production rate attained by this plant. Will the excess phosphoric acid be used in the Prill MAP plant or the granular MAP/DAP plant? Will any excess phosphoric acid be trucked to the Bartow facility for use in the DAP plant?

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,



A. A. Linero, P.E., Administrator  
Bureau of Air Regulation

AAL/sa

cc: John B. Koogler, P.E., K & A  
Bill Thomas, DEP SWD  
Gregg Worley, EPA Region IV  
John Bunyak, NPS



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 21, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric and Phosphoric Acid Plant Production Increases

Dear Mr. Vo:

This letter addresses the modeling information sent with your June 23, 2000 response to the Department's March 3, 2000 incompleteness letter to you regarding an air construction permit for the above referenced project. In order to expedite the application, we need the additional information listed below:

1. The modeling information supplied does not give the Department reasonable assurance that the Ambient Air Quality Standard (AAQS) for the SO<sub>2</sub> 24-hour averaging time will not be violated. At least five of the 24-hour AAQS modeling output files sent with this letter (AQS87S24.OUT, AQS89S24.OUT, AQS89G.OUT, AQS90G24.OUT, and AQS91G24.OUT with highest values of 260, 276, 256, 295, and 246 ug/m<sup>3</sup>, respectively) show highest values, which, when combined with a background concentration, are greater than the 260 ug/m<sup>3</sup> standard. No high second high values (HSH) were calculated with these modeling runs. HSH values should have been calculated since the highest-first high values are projected to be greater than the AAQS. The Department has performed some additional modeling which predicts HSH values greater than 260 ug/m<sup>3</sup>. The project is not permissible with the requested emission limits if it is predicted to significantly contribute to any projected exceedances of the HSH. Please provide detailed and appropriate modeling information that will give the Department reasonable assurance the 24-hour SO<sub>2</sub> AAQS will not be violated. Any additional modeling should include emissions from FPC Bartow, FPC Bayboro and FPC Higgins. These are sources within 100 km of the project, which have allowable emissions much greater than the corresponding 20-D emissions.

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.

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SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>		A. Received by (Please Print Clearly)	B. Date of Delivery 7-25-00
1. Article Addressed to:  Mr. Phong T. Vo General Manager, E&TS U.S. Agrichemicals Corp. 3225 SR 630 West Fort Meade, FL 33841		C. Signature <b>X</b> <i>Phong T. Vo</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
2. Article Number (Copy from service label) Z 031 392 034		D. Is delivery address different from item 1? If YES, enter delivery address below: <input type="checkbox"/> Yes <input type="checkbox"/> No	
		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.	
		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

Z 031 392 034

US Postal Service

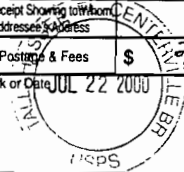
**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	
Mr. Phong T. Vo	
Street & Number	
3225 ST 630 West	
Post Office, State, & ZIP Code	
Bartow, FL 33841	
Postage	\$ 33
Certified Fee	140
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	125
Return Receipt Showing to Whom, Date, & Addressee Address	
TOTAL Postage & Fees	\$ 298
Postmark or Date	JUL 22 2000

PS Form 3800, April 1995

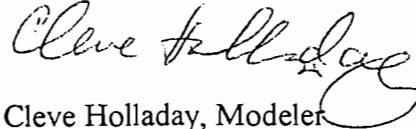


Mr. Phong T. Vo  
July 21, 2000  
Page 2 of 2

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. You may discuss the modeling requirements with me at 850/921-8689.

Sincerely,



Cleve Holladay, Modeler  
Bureau of Air Regulation

CGH/ch

cc: John B. Koogler, P.E., K & A  
Bill Thomas, DEP SWD  
Gregg Worley, EPA Region IV  
John Bunyak, NPS

**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, E&TS  
 U.S. Agrichemicals Corp.  
 3225 SR 630 West  
 Fort Meade, FL 33841

2. Article Number (Copy from service label)  
 Z 031 392 034

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

C. Signature  Agent  
 Addressee

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

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

Z 031 392 034

US Postal Service

**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	Mr. Phong T. Vo
Street & Number	3225 ST 630 West
Post Office, State, & ZIP Code	Bartow, FL 33841
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

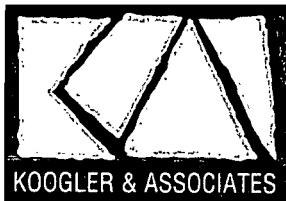
PS Form 3800, April 1995

Fold at line over top of envelope to the right of the return address.

**CERTIFIED**

Z 031 392 034

**MAIL**



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

KA 173-99-02

June 8, 2000

**RECEIVED**

**JUN 23 2000**

**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: Sulfuric and Phosphoric Acid Plant Production Increases  
US Agri-Chemicals Corporation  
File PSD-FL-278, 1050051-009-AC

Dear Mr. Linero:

This is in response to your letter dated March 3, 2000, requesting additional information on the above referenced project. The issues are addressed in the order presented in your letter.

1. The requested P.E. Certification page, associated with this response as well as the previous response, is presented in Attachment 1.1.
2. The requested updated pages of the application, reflecting the proposed SAM limit of 0.12 lb/ton acid, are presented in Attachment 1.1. The revised corresponding summary table, of the net emissions increases resulting from the proposed sulfuric acid production increase, is presented in Attachment 1.2.
3. The calculations associated with the net emissions increase resulting from the proposed sulfuric acid production increase are presented in Attachment 1.2.
4. It is our understanding, based on discussions with FDEP staff, that the intent behind this information request was to obtain some historical SO<sub>2</sub> emissions data that shows the variability in SO<sub>2</sub> emissions, other than the one-time annual tests. Some of the 1999 SO<sub>2</sub> CEM data have been analyzed. Based on the actual operation rates, the data were converted to a lb/ton emission factor and for the most variable months of March, May and October of 1999, the range of SO<sub>2</sub> emissions calculated for Plant 1 was from 2.7-3.0, 1.4-3.5, 2.2-3.1, lb/ton respectively. Similarly, the SO<sub>2</sub> range for Plant 2 was from 2.3-3.9, 1.6-3.3, 2.2-3.4, lb/ton for the same three months respectively. Additional data can be similarly calculated and submitted, if deemed necessary.



5. In the past, the facility had exported excess sulfuric acid that it produced. The proposed increase in production was originally intended to simply add to any excess that would be exported. In response to FDEP's inquiry relative to other emissions units that may be affected by the proposed project, USAC has decided to request an increase in the permitted phosphoric acid production rate of the existing plants. Excess sulfuric acid will allow a phosphoric acid production increase that will supply the recently permitted MAP plant. No other emissions units are expected to be affected by the proposed project. Amended portions of the PSD permit application are presented in Attachments 1.2 and 2.0. The sulfuric acid accounting summary mentioned in your letter is not attached as it is unnecessary given the information presented in this submittal.
6. The significant impact radius for each averaging period for SO<sub>2</sub>, based on the results of the screening analysis, is 11 km, 23 km and 8 km, for the 3-hour, 24-hour and annual averaging periods, respectively. The expanded ISC modeling, however, evaluated air impacts for the 3-hour averaging period to the same distance as the 24-hour averaging period in order to streamline the modeling. This resulted in a more conservative air impacts analysis. Maps, of the receptor locations used in the SO<sub>2</sub> and NO<sub>x</sub> significant impact modeling, are presented in Attachment 1.3. All the modeling runs are presented on the enclosed disk. The difference between the two sets of output files, aqsyinv.out and aqsyinv.ano, was that the "ano" file used a set of receptor locations that represented the area of significant impact unique to the annual averaging period.
7. The air impacts summary tables have been updated to indicate the locations of the tabulated air impacts and indicate the highest second-high impacts for the 3-hour and 24-hour averaging periods. Additional modeling requested by FDEP was conducted, refined to 100-meter resolution around the locations of the high impacts (rectangular grid extending  $\pm 1000$  meters on x and y axes). As the 24-hour averaging period was of most interest to FDEP, given the magnitude of the impacts, the locations of the top three highest-high and top three highest second-high impacts were used in the refined modeling. For the annual and 3-hour averaging periods, only the locations of the highest impacts were used in the refined modeling. The modeling output files are provided on disk. The modeling impacts resulting from the refined modeling are included in the summary tables presented in Attachment 1.5. Regarding the evaluation of higher impacts at or near the edge of the expanded modeling receptor grid, it is our understanding that the expanded ambient air quality analysis may be limited to the area of significant impact resulting from the proposed project. Please note that the modeling receptor locations chosen for the expanded modeling were already extended beyond the proposed project's area of significant impact. Consequently, no further air impacts analysis is warranted.
8. The multisource SO<sub>2</sub> emissions inventory used in the ISC air dispersion modeling extended to 70 kilometers from the proposed project. The revised emission inventory

table, updated to address the earlier discrepancies, is presented in Attachment 1.4. Significant sources beyond the suggested ISC model range of 50 kilometers were included in the modeling in order to be conservative.

9. Please refer to the attached copy of the facility's aerial photograph, presented in Attachment 1.6, indicating the physical barriers precluding public access on to the property. There is a dyke/berm around most of the property boundary that prevents public access. There is a fence along the southeast portion of the property boundary and to the southwest, beyond the area shown on the aerial photograph. Only a small portion of the property, along the main entrance road, is without physical barriers. However, public access to this portion of the property is precluded by 24-hour surveillance by the security guard situated at the main entrance to the property.
10. In our opinion, the incorporation of a background concentration level from an ambient air SO<sub>2</sub> monitor that is surrounded by the same sources used in the air dispersion modeling inventory results in a significant amount of double counting. Based on the discussions between Pradeep Raval (Koogler & Associates), Cleve Holladay (FDEP) and Stan Krivo (EPA), a different SO<sub>2</sub> ambient air monitor has now been selected to provide the background concentration levels. A SO<sub>2</sub> monitor located at Winter Park (12-095-2002) is selected for evaluating the background concentration levels for the proposed project. Please refer to Attachment 1.7, indicating the relative monitoring site and emissions source locations. The corresponding concentration levels, previously provided by FDEP for the year 1998, of 71 ug/m<sup>3</sup>, 18 ug/m<sup>3</sup> and 5 ug/m<sup>3</sup> are used in evaluating the 3-hour, 24-hour and annual averaging periods impacts, respectively. It should be noted that the maximum monitored 1998 SO<sub>2</sub> concentration levels at this monitor are higher than the maximum monitored 1999 levels. The data from this monitor are considered representative of the background SO<sub>2</sub> concentration levels for the proposed project, given that the monitor is:
  - a. located in the same general area of Florida (central) as the proposed project;
  - b. located inland, as is the proposed project; and,
  - c. located closer to the proposed project than other monitors that are also less likely to receive contributions from the major sources included in the modeling inventory.
11. The CALPUFF modeling performed for the proposed project requires specially formatted meteorological data files. As the preparation of the meteorological files is an extremely effort intensive task, prior approval was obtained from FDEP staff for the use of one year's worth of data. As only the 1990 meteorological data were available in a format compatible with the CALPUFF model, the current project evaluation relied on that data.

Mr. Al Linero  
Florida Department of  
Environmental Protection

June 8, 2000

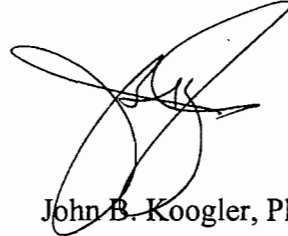
12. Based on telephone conversations with Pradeep Raval and Ellen Porter of the U.S. Fish and Wildlife Service (USFWS), it is our understanding that the information submitted to FDEP and USFWS regarding the maximum predicted Class I area air impacts and the corresponding contributions analysis are satisfactory for the evaluation of this project.

Regarding the comments from the USFWS, Ellen Porter indicated that their review of the proposed project's air impact analysis is complete. Regarding the BACT analysis, it should be noted that while a lower SO<sub>2</sub> emission limit was proposed, it is our understanding that the final permit for Mississippi Phosphates' reflects a SO<sub>2</sub> emissions limitation of 4.0 lb/ton acid and a SAM emissions limitation of 0.15 lb/ton acid. These emission limitations are less stringent than the 3.5 lb/ton acid and 0.12 lb/ton acid limits proposed by USAC for SO<sub>2</sub> and SAM, respectively.

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES



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

JBK:par  
Enc.

c: Jerry Girardin, USAC

Ron Brunk, USAC

*J. Arif*

*C. Halladay*

EPA

NPS

SWD

ATTACHMENT 1.0

UPDATED INFORMATION

PSD PERMIT APPLICATION  
SULFURIC ACID PRODUCTION INCREASE

ATTACHMENT 1.1

UPDATED PAGES OF THE APPLICATION FORM

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: <b>Phong T. Vo, General Manager of Engineering and Technical Services</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>Same as Above</b> Street Address: City: State: Zip Code:
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: <b>(863 ) 285-8121</b> Fax: <b>(863 ) 285-7088</b>
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>6/20/00</u>

\* Attach letter of authorization if not currently on file.

**Professional Engineer Certification**

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

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

Date

(seal)

6/12/00

\* Attach any exception to certification statement.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:

USAC received a construction permit (PSD FL-107) to de-bottleneck the existing sulfuric acid plants in August 1985 to increase production up to 3000 TPD each plant. To date, the planned production has not been achieved. Due to recent technological advances, USAC proposes to make additional modification to the plants to increase production rate up to 3000 TPD each plant. The extent of modification primarily involves catalyst type and quantity in the converter. Minor modification to the plant's feed rate, heat transfer system, acid distribution system, etc. may be made as necessary to accommodate the increased production.

2. Projected or Actual Date of Commencement of Construction: 9/30/00

3. Projected Date of Completion of Construction: 12/31/02

**Application Comment**

[Empty box for Application Comment]



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

Potential/Fugitive Emissions

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control: 91.2
3. Potential Emissions: 15 lb/hour                      65.7 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ X ] 1      [ ] 2      [ ] 3      _____ to _____ tons/year	
6. Emission Factor: 0.12 lb/ton acid Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): SAM = 125 tph x 0.12 lb/ton acid : = 15 lbs/hr x 8760 hours x ton/2000 lbs = 65.7 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 0.12 lb/ton acid	4. Equivalent Allowable Emissions: 15 lb/hour      65.7 tons/year
5. Method of Compliance (limit to 60 characters): EPA METHOD 8	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control: 91.2
3. Potential Emissions: 15 lb/hour	4. Synthetically Limited? [ ] 65.7 tons/year
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.12 lb/ton acid Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): $\begin{aligned} \text{SAM} &= 125 \text{ tph} \times 0.12 \text{ lb/ton acid} : \\ &= 15 \text{ lbs/hr} \\ &\quad \times 8760 \text{ hours} \times \text{ton}/2000 \text{ lbs} \\ &= 65.7 \text{ tpy} \end{aligned}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 0.12 lb/ton acid	4. Equivalent Allowable Emissions: 15 lb/hour 65.7 tons/year
5. Method of Compliance (limit to 60 characters): EPA METHOD 8	

ATTACHMENT 1.2

UPDATED CALCULATIONS OF NET EMISSIONS INCREASES

ATTACHMENT 1.2

NET EMISSIONS CHANGES

SULFURIC ACID PRODUCTION INCREASE

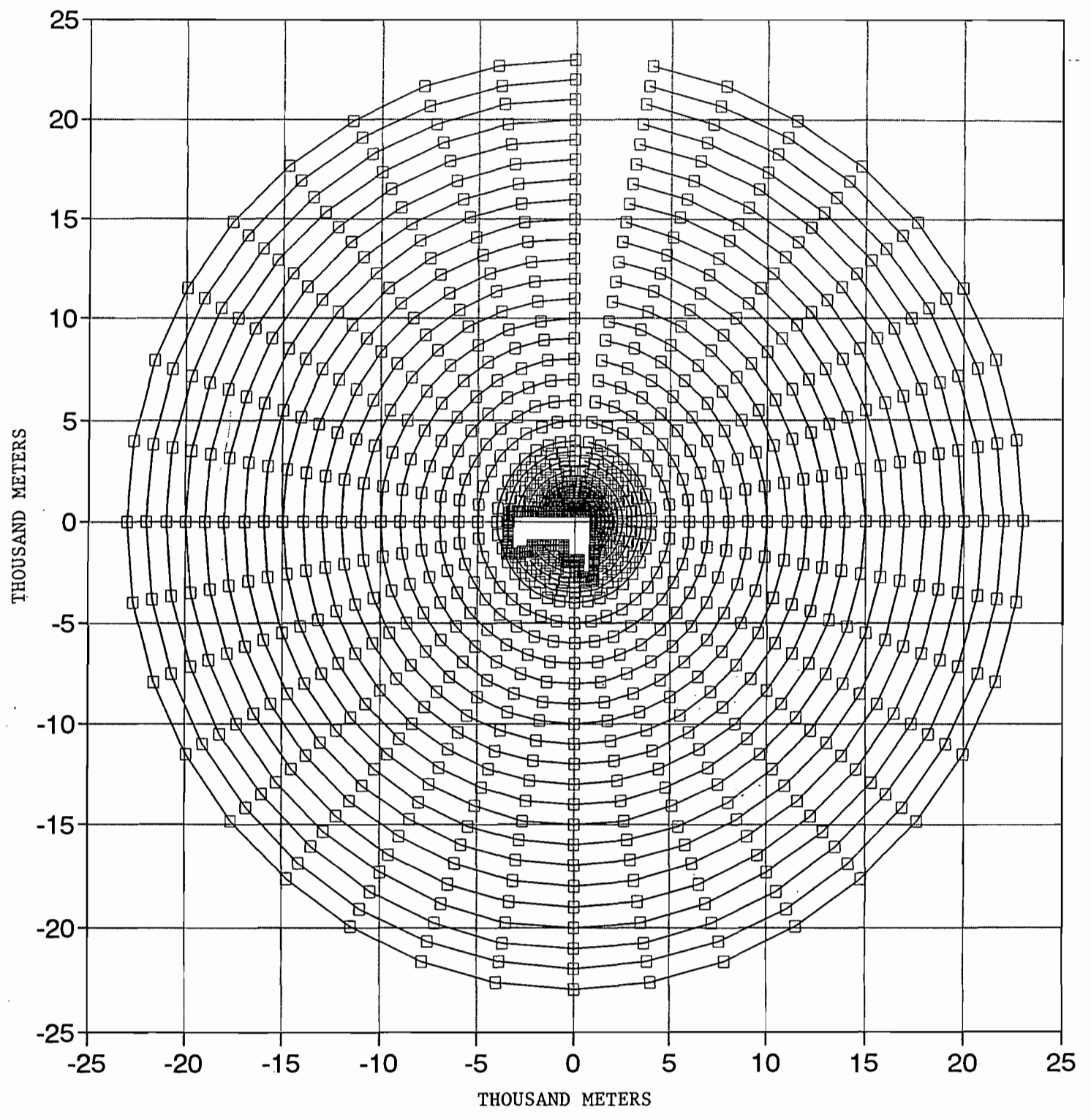
The actual emissions presented below are based on a two-year average for the years 1998 and 1999. The emissions of sulfur dioxide and sulfuric acid mist are based on measurements during compliance testing. The emissions of nitrogen oxides are estimated based on an emission factor of 0.12 lb/ton. Annual emissions are calculated by multiplying the emissions rate in lb/ton acid by the annual acid production.

Year	Plant	Production	SO <sub>2</sub>		SAM		NO <sub>x</sub>	
			Lb/ton	tpy	lb/ton	tpy	lb/ton	tpy
ACTUAL EMISSIONS								
1998	Plant 1	792,803	2.42	959.3	0.049	19.4	0.12	47.6
	Plant 2	789,623	2.47	<u>975.2</u>	0.046	<u>18.2</u>	0.12	<u>47.4</u>
TOTAL				1934.5		37.6		95.0
1999	Plant 1	787,393	2.95	1161.4	0.043	16.9	0.12	47.2
	Plant 2	793,569	3.76	<u>1491.9</u>	0.038	<u>15.1</u>	0.12	<u>47.6</u>
TOTAL				2653.3		32.0		94.8
1998-99 Average				2293.9		34.8		94.9
PROPOSED EMISSIONS								
	Plant 1	1,095,000	3.5	1916.3	0.12	65.7	0.12	65.7
	Plant 2	1,095,000	3.5	<u>1916.3</u>	0.12	<u>65.7</u>	0.12	<u>65.7</u>
TOTAL				3832.6		131.4		131.4
CONTEMPORANEOUS EMISSIONS								
	MAP Plant			0		0		12.6
NET CHANGE								
TOTAL				1538.7		96.6		49.1
PSD Significant Level				40		7		40
PSD Review ?				YES		YES		YES

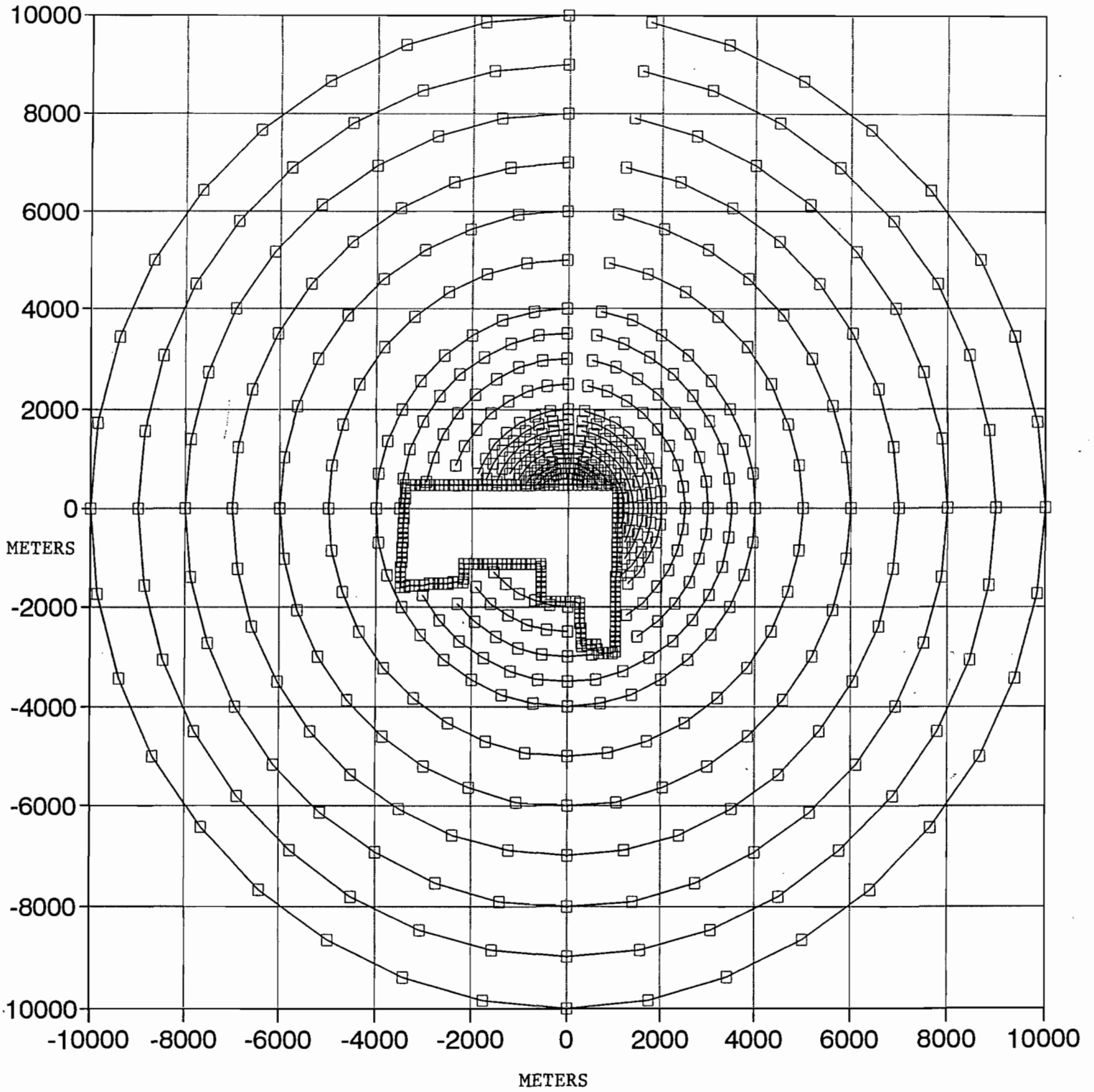
ATTACHMENT 1.3

MODELING RECEPTOR LOCATION MAPS

Modeling Receptors  
Locations for SO2 SIA  
US AGRICHEMICALS CORPORATION



Modeling Receptor  
Locations for NO<sub>x</sub> SIA  
US AGRICHEMICALS CORPORATION



ATTACHMENT 1.4

UPDATED SULFUR DIOXIDE EMISSION INVENTORY



**Table 2-3  
Sulfur Dioxide Emitting Facilities**

SO2 *20 D* SOURCE INVENTORY US-AGRI CHEMICALS CORP.				Source Location		415.940	3068.930	
SOURCE DESCRIPTION	DESIGNATION	UTM Coordinates (km)		SO2 TPY	Distance (Km)	20-D Emission (TPY)	Significant?	
		EAST	NORTH					
AUBURNDALE	BOTH	420.800	3103.300	221	35	694	NO	
BORDEN	PSD	394.800	3069.600	225	21	423	NO	
BREWSTER/IMPERIAL	PSD	404.800	3069.500	670	11	223	YES	
CARGILL/GARDINIER MINE	NAAQS	415.300	3063.300	670	6	113	YES	
CARGILL/GARDINIER	BOTH	363.400	3082.400	11779	54	1085	YES	
CARGILL/SEMINOLE/W.R. GRACE	BOTH	409.770	3086.990	14931	19	382	YES	
CF BARTOW	BOTH	408.500	3082.500	29567	15	310	YES	
CF PLANT CITY	BOTH	388.000	3116.000	9452	55	1095	YES	
CITRUS WORLD	NAAQS	441.000	3087.300	2062	31	621	YES	
CLM CHLORIDE METALS	BOTH	361.800	3088.300	731	58	1150	NO	
COCA COLA - AUBURNDALE	NAAQS	421.600	3103.700	1393	35	705	YES	
CONSOLIDATED MINERALS	NAAQS	393.800	3096.300	943	35	704	YES	
COUCH CONST-ZEPHYRHILLS (ASP	BOTH	390.300	3129.400	123	66	1314	NO	
DOLIME	PSD	404.813	3069.548	355	11	223	YES	
ESTECH/SWIFT	PSD	411.500	3074.200	4856	7	138	YES	
FARMLAND	BOTH	410.516	3079.624	8545	12	240	YES	
FPC INT. CITY	BOTH	446.300	3126.000	8168	65	1293	YES	
FPC OSCEOLA	BOTH	446.300	3126.000	16958	65	1293	YES	
FPC POLK	BOTH	414.400	3073.910	859	5	104	YES	
FPL MANATEE	NAAQS	367.200	3054.100	83410	51	1019	YES	
GEN. PORT. CEMENT	PSD	358.000	3090.600	4602	62	1237	YES	
GOLD BOND	NAAQS	347.300	3082.700	320	70	1400	NO	
GULF COAST LEAD	NAAQS	364.000	3093.500	1711	57	1149	YES	
HARDEE	BOTH	404.800	3057.400	9657	16	321	YES	
HILLS. CO. RESOURCE RECOVERY	BOTH	368.200	3092.700	744	53	1067	NO	
IMC - AGRICO /NICHOLS/CONSERVE	BOTH	398.400	3084.200	3495	23	465	YES	
IMC-AGRICO/NEW WALES	BOTH	396.600	3078.900	11416	22	435	YES	
IMC-AGRICO/NORALYN	NAAQS	414.700	3080.300	504	11	229	YES	
IMC-AGRICO/PIERCE	PSD	404.100	3078.950	1646	16	310	YES	
IMC-AGRICO/SO. PIERCE	BOTH	407.500	3071.300	5114	9	175	YES	
KISSIMMEE KANE IS.	BOTH	447.680	3127.920	1023	67	1340	NO	
LAFARGE CORP.	NAAQS	357.7	3090.6	20293	62	1243	YES	
LAKELAND LARSEN	BOTH	409.300	3102.800	4944	35	690	YES	
LAKELAND MCINTOSH	BOTH	409.200	3106.200	30563	38	757	YES	
MOBIL BIG-4	BOTH	394.850	3069.770	591	21	422	YES	
MOBIL NICHOLS	BOTH	398.300	3084.300	971	23	468	YES	
MOBILE ELECTROPHOS	PSD	405.600	3079.400	3337	15	294	YES	
MULBERRY COGENERATION	BOTH	413.600	3080.600	466	12	238	YES	
MULBERRY PROSPHATES/ROYSTER	BOTH	406.753	3085.151	5312	19	373	YES	
NITRAM	NAAQS	363.100	3089.000	108	57	1130	NO	
PANDA KATHLEEN	BOTH	398.700	3101.400	25	37	735	NO	
PINEY POINT/ROYSTER	NAAQS	348.700	3057.300	1719	68	1365	YES	
RIDGE COGENERATION	BOTH	416.700	3100.400	480	31	630	NO	
SEBRING UTIL	BOTH	464.300	3035.400	3868	59	1177	YES	
SECI HARDEE	BOTH	404.900	3057.400	452	16	319	YES	
SULFUR TERMINALS	NAAQS	358.000	3090.000	104	62	1233	NO	
TAMPA GENERAL HOSP	NAAQS	356.400	3091.000	59	63	1270	NO	
TAMPA MCKAY BAY RRF	BOTH	360.000	3091.000	744	60	1203	NO	
TECO BIG BEND	BOTH	361.900	3075.000	415986	54	1088	YES	
TECO GANNON	NAAQS	360.000	3087.500	127495	59	1179	YES	
TECO HOOKERS POINT	NAAQS	358.000	3091.000	13535	62	1240	YES	
TECO POLK POWER	BOTH	402.488	3066.914	4031	14	272	YES	
THATCHER GLASS	NAAQS	361.800	3088.300	177	58	1150	NO	
USS AGRI-CHEM BARTOW	PSD	413.200	3086.300	1580	18	352	YES	
USSAC FT MEADE	BOTH	415.940	3068.930	3377	0	0	YES	

ATTACHMENT 1.5

UPDATED SUMMARY OF MODELING RESULTS

Class 2 Area FAAQS Standard Analysis

Year	3-Hour High AT (X & Y)		3-Hour HSH AT (X & Y)		24-Hour High AT (X & Y)		24-Hour HSH AT (X & Y)		Annual High AT (X & Y)	
1987	537.11		486.52		182.39		176.12		35.64	
	-5638.16	2052.12	-6500.00	11,258.33	-6000.00	10,392.30	-3767.22	10,336.62	-1041.89	-5908.85
1988	523.85		454.49		183.91		168.82		31.21	
	-6000.00	10,392.30	-3762.22	10,336.62	-5500.00	9526.28	-5500.00	9526.28	-1041.89	-5908.85
1989	597.57		596.87		237.94		200.61		30.08	
	-19,052.56	11,000.00	-19,052.56	11,000.00	-5142.30	6128.36	-5500.00	9526.28	-5196.15	3000.00
1990	484.58		458.94		199.52		189.91		31.52	
	-1910.13	10,832.88	-1910.13	10,832.88	-3762.22	10,336.62	-3762.22	10,336.62	-1041.89	-5908.85
1991	583.75		554.66		191.76		171.92		34.66	
	-6500.00	11,258.33	-6500.00	11,258.33	-1041.89	-5908.85	0.00	6000.00	-1041.89	-5908.85
Maximum	597.57		596.87		237.94		200.61		35.64	
	-19,052.56	11,000.00	-19,052.56	11,000.00	-5142.30	6128.36	-5500.00	9526.28	-1041.89	-5908.85
Max.+ Bkgd. Standard			668				219		41	
			1300				260		60	

PSD Increment Analysis Class 2 Area

Year	3-Hour High AT (X & Y)		3-Hour HSH AT (X & Y)		24-Hour High AT (X & Y)		24-Hour HSH AT (X & Y)		Annual High AT (X & Y)	
1987	160.14		105.70		29.47		25.63		0.00	
	-2778.37	15,756.92	8000.00	13,856.41	-7000.00	-12,124.36	-7000.00	-12,124.36		
1988	227.10		171.56		49.60		41.03		0.00	
	-12,256.71	10,284.60	8000.00	13,856.41	8000.00	13,856.41	8000.00	13,856.41		
1989	259.32		222.00		62.72		40.66		0.00	
	12,000.00	20,784.61	12,000.00	20,784.61	-19,052.56	11,000.00	12,000.00	20,784.61		
1990	140.30		104.28		30.19		23.62		0.00	
	-3762.22	10,336.62	1910.13	10,832.89	-7794.23	4,500.00	-7660.44	6,427.88		
1991	205.33		139.89		32.56		26.45		0.00	
	-4788.28	13,155.70	-4788.28	13,155.70	-7794.23	4500.00	-8999.03	-10,724.62		
Maximum	259.32		222.00		62.72		41.03		0.00	
	12,000.00	20,784.61	12,000.00	20,784.61	-19,052.56	11,000.00	8000.00	13,856.41		
Increment			512				91		20	

\*NOTE: Background concentration levels of 71, 18 and 5 ug/m3 for the 3-hr, 24-hr and annual averaging periods, respectively, are included in the total impact.

THIS DISK CONTAIN SULFUR DIOXIDE (SO2) MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT AND CONTAIN ISCST3 MODELING OF:

ASI2SO2.EXE      SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 2 AREAS  
GRID100M.EXE    INCREMENT ANALYSIS FOR CLASS II

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE SO2 ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:

ASI2SO2  
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;

THE FILE ASI2SO2.EXE CONTAINS:

C2S02-87 OUT	282,909	04-28-00	SO2 CLASS 2 AND FAAQS SIA FOR 1987
C2S02-88 OUT	282,909	04-28-00	SO2 CLASS 2 AND FAAQS SIA FOR 1988
C2S02-89 OUT	296,995	04-28-00	SO2 CLASS 2 AND FAAQS SIA FOR 1989
C2S02-90 OUT	282,909	04-28-00	SO2 CLASS 2 AND FAAQS SIA FOR 1990
C2S02-91 OUT	282,909	04-28-00	SO2 CLASS 2 AND FAAQS SIA FOR 1991

PSD CLASS 2 AND FAAQS INVENTORIES WERE COMPILED AND FOR THE FIVE YEARS METEOROLOGY. RECEPTOR GRIDS OF 2KM IN WIDTH AND WITH 100 METER SPACING WERE PLACED CENTERED AT THE POLAR MOST EXPOSED INDIVIDUAL (MEI) RECEPTORS. THE FOLLOWING INCREMENT AND STANDARD ANALYSIS MODELING ARE PROVIDED:

THE FILE GRID100M.EXE CONTAINS:

AQS89-3G OUT	103,286	05-01-00	3 HOUR AVERAGE PSD CLASS 2 FOR 1989
AQS87S24 OUT	103,554	05-01-00	24 HOUR AVERAGE AQS CLASS 2 FOR 1987
AQS89G24 OUT	103,286	05-01-00	24 HOUR AVERAGE AQS CLASS 2 FOR 1989
AQS89S24 OUT	103,554	05-01-00	24 HOUR AVERAGE AQS CLASS 2 FOR 1989
AQS90G24 OUT	103,420	05-01-00	24 HOUR AVERAGE AQS CLASS 2 FOR 1990
AQS91G24 OUT	103,286	05-01-00	24 HOUR AVERAGE AQS CLASS 2 FOR 1991
AQS87GAN OUT	96,242	04-30-00	ANNUAL AVERAGE AQS CLASS 2 FOR 1987

PSD89G3H OUT	91,279	04-30-00	3 HOUR AVERAGE PSD CLASS 2 FOR 1989
PSD88G24 OUT	91,413	05-01-00	24 HOUR AVERAGE PSD CLASS 2 FOR 1988
PSD89G24 OUT	91,279	05-01-00	24 HOUR AVERAGE PSD CLASS 2 FOR 1989
PSD89S24 OUT	91,279	04-30-00	24 HOUR AVERAGE PSD CLASS 2 FOR 1989
PSD91G24 OUT	91,279	04-30-00	24 HOUR AVERAGE PSD CLASS 2 FOR 1991
PSD91S24 OUT	91,279	05-01-00	24 HOUR AVERAGE PSD CLASS 2 FOR 1991

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

MARK KOLETZKE, P.E.  
KOOGLER AND ASSOCIATES  
(352) 377-5822  
KOOGLER@WORLDNET.ATT.NET

ATTACHMENT 1.6

PROPERTY BOUNDARY MAP

U.S. Agri-Chemicals  
Air Modeling Boundary



—— Dike/berm

⊠⊠⊠⊠ Fence

ATTACHMENT 1.7

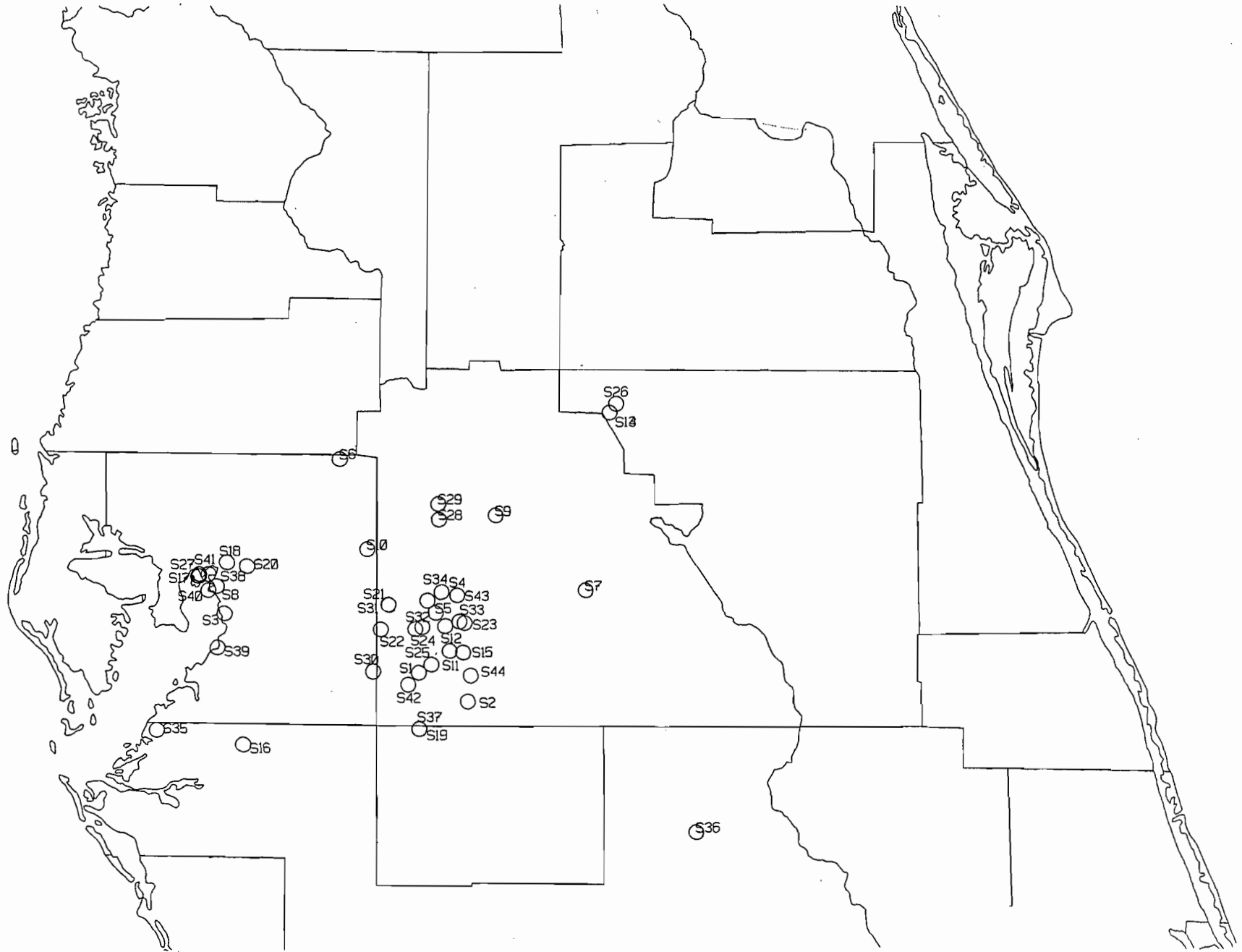
LOCATION MAPS OF SO<sub>2</sub> SOURCES AND AMBIENT MONITORS

## Identification of Significant SO2 Sources

	SOURCE DESCRIPTION	UTM Coordinates (km)	
		EAST	NORTH
S1	BREWSTER/IMPERIAL	404.800	3069.500
S2	CARGILL/GARDINIER MINE	415.300	3063.300
S3	CARGILL/GARDINIER	363.400	3082.400
S4	CARGILL/SEMINOLE/W.R. GRACE	409.770	3086.990
S5	CF BARTOW	408.500	3082.500
S6	CF PLANT CITY	388.000	3116.000
S7	CITRUS WORLD	441.000	3087.300
S8	CLM CHLORIDE METALS	361.800	3088.300
S9	COCA COLA - AUBURNDALE	421.600	3103.700
S10	CONSOLIDATED MINERALS	393.800	3096.300
S11	ESTECH/SWIFT	411.500	3074.200
S12	FARMLAND	410.516	3079.624
S13	FPC INT. CITY	446.300	3126.000
S14	FPC OSCEOLA	446.300	3126.000
S15	FPC POLK	414.400	3073.910
S16	FPL MANATEE	367.200	3054.100
S17	GEN. PORT. CEMENT	358.000	3090.600
S18	GULF COAST LEAD	364.000	3093.500
S19	HARDEE	404.800	3057.400
S20	HILLS. CO. RESOURCE RECOVERY	368.200	3092.700
S21	IMC - AGRICO /NICHOLS/CONSER	398.400	3084.200
S22	IMC-AGRICO/NEW WALES	396.600	3078.900
S23	IMC-AGRICO/NORALYN	414.700	3080.300
S24	IMC-AGRICO/PIERCE	404.100	3078.950
S25	IMC-AGRICO/SO. PIERCE	407.500	3071.300
S26	KISSIMMEE KANE IS.	447.680	3127.920
S27	LAFARGE CORP.	357.700	3090.600
S28	LAKELAND LARSEN	409.300	3102.800
S29	LAKELAND MCINTOSH	409.200	3106.200
S30	MOBIL BIG-4	394.850	3069.770
S31	MOBIL NICHOLS	398.300	3084.300
S32	MOBILE ELECTROPHOS	405.600	3079.400
S33	MULBERRY COGENERATION	413.600	3080.600
S34	MULBERRY PROSPHATES/ROYSTE	406.753	3085.151
S35	PINEY POINT/ROYSTER	348.700	3057.300
S36	SEBRING UTIL	464.300	3035.400
S37	SECI HARDEE	404.900	3057.400
S38	TAMPA MCKAY BAY RRF	360.000	3091.000
S39	TECO BIG BEND	361.900	3075.000
S40	TECO GANNON	360.000	3087.500
S41	TECO HOOKERS POINT	358.000	3091.000
S42	TECO POLK POWER	402.488	3066.914
S43	USS AGRI-CHEM BARTOW	413.200	3086.300
S44	USSAC FT MEADE	415.940	3068.930



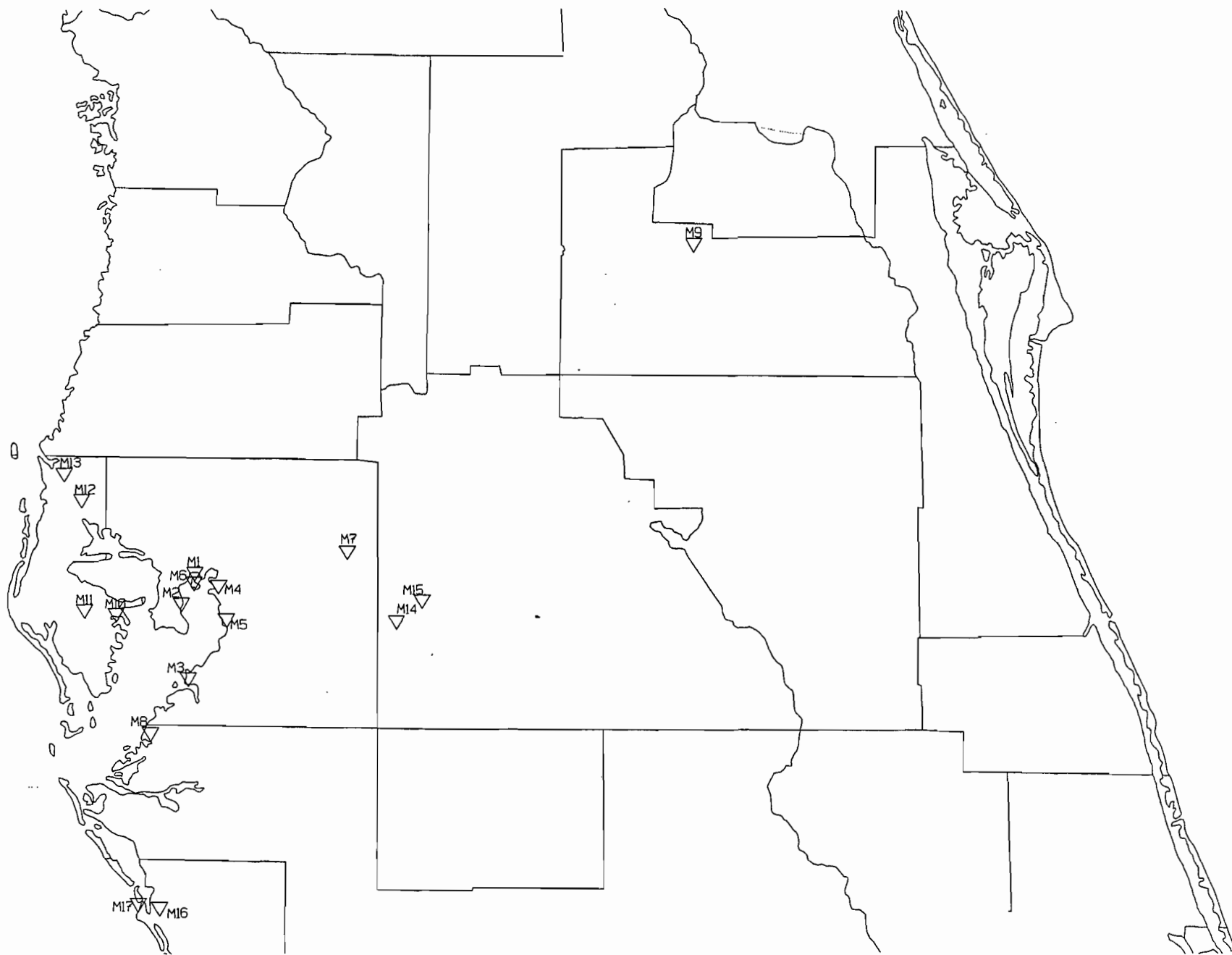
# Location of Significant SO2 Sources



### Identification of Ambient SO2 Monitors

Identification		UTM Coordinates (km)		County
Number	Monitor Location	EAST	NORTH	Designation/Number
M1	RUSKIN	357.024	3092.065	HILLSBOROUGH 21
M2	TAMPA	354.182	3085.359	HILLSBOROUGH 53
M3	TAMPA	355.561	3069.035	HILLSBOROUGH 81
M4	TAMPA	362.100	3089.240	HILLSBOROUGH 95
M5	TAMPA	363.770	3081.892	HILLSBOROUGH 109
M6	TAMPA	356.862	3089.913	HILLSBOROUGH 1035
M7	PLANT CITY	389.300	3096.710	HILLSBOROUGH 4004
M8	PALMETTO	347.461	3057.318	MANATEE 3002
M9	WINTER PARK	464.515	3163.490	ORANGE 2002
M10	ST PETERSBURG	340.173	3082.975	PINELLAS 23
M11	PINELLAS	333.450	3083.930	PINELLAS 3002
M12	TARPON	332.880	3108.174	PINELLAS 5002
M13	TARPON	329.140	3113.970	PINELLAS 5003
M14	MULBERRY	399.801	3081.501	POLK CO 10
M15	MULBERRY	405.500	3086.000	POLK CO 2006
M16	SARASOTA	349.150	3020.375	SARASOTA 1002
M17	SARASOTA	344.600	3021.250	SARASOTA 1005

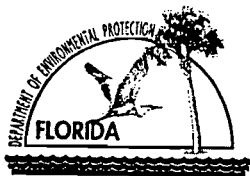
# Location of Ambient SO<sub>2</sub> Monitors



ATTACHMENT 2.0

SUPPLEMENTAL INFORMATION

PSD PERMIT APPLICATION FOR  
PHOSPHORIC ACID PRODUCTION INCREASE



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

##### Application Contact

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

##### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
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: <b>Phong T. Vo, General Manager of Engineering and Technical Services</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>Same as Above</b> Street Address: City: State: Zip Code:
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: <b>(863 ) 285-8121</b> Fax: <b>(863 ) 285-7088</b>
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>6/20/00</u>

\* Attach letter of authorization if not currently on file.

**Professional Engineer Certification**

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

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

6/12/00

\* 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 rates of the sulfuric acid plants Nos. 1 and 2 to 3000 tpd , each; and, an increase in the production rates of the phosphoric acid trains Nos. A and B to 50 tph, each. This will result in an increase in the acid throughput at the phosphoric acid tank farm. The proposed project is subject to a PSD review as the expected increases, in the air emissions of sulfur dioxide, sulfuric acid mist, nitrogen oxides 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: **9/30/00**

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

**Application Comment**





## 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 <sub>x</sub>	A				
SAM	A				



**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**

1. Type of Emissions Unit Addressed in This Section: (Check one) <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). <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. <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.			
2. Regulated or Unregulated Emissions Unit? (Check one) <input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit. <input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.			
3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):  <p style="text-align: center;"><b>Phosphoric Acid Plant A-Train</b></p>			
4. Emissions Unit Identification Number: ID: <b>005</b> [    ] No ID			
5. Emissions Unit Status Code: <b>A</b>	6. Initial Startup Date: <b>N/A</b>	7. Emissions Unit Major Group SIC Code: <b>28</b>	8. Acid Rain Unit? [    ]
9. Emissions Unit Comment: (Limit to 500 Characters)			



**Emissions Unit Control Equipment**

<p>1. Control Equipment/Method Description (Limit to 200 characters per device or method):</p> <p style="margin-left: 40px;"><b>VENTURI SCRUBBER</b></p>
<p>2. Control Device or Method Code(s): <b>053</b></p>

**Emissions Unit Details**

<p>1. Package Unit: <b>N/A</b>          Manufacturer:          Model Number:</p>						
<p>2. Generator Nameplate Rating: <span style="float: right;"><b>MW</b></span></p>						
<p>3. Incinerator Information:</p> <table style="width: 100%; margin-left: 100px;"> <tr> <td style="width: 60%;">Dwell Temperature:</td> <td style="width: 40%; text-align: right;">°F</td> </tr> <tr> <td>Dwell Time:</td> <td style="text-align: right;">seconds</td> </tr> <tr> <td>Incinerator Afterburner Temperature:</td> <td style="text-align: right;">°F</td> </tr> </table>	Dwell Temperature:	°F	Dwell Time:	seconds	Incinerator Afterburner Temperature:	°F
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:	NA	mmBtu/hr
2. Maximum Incineration Rate:	N/A	lb/hr tons/day
3. Maximum Process or Throughput Rate:	N/A	
4. Maximum Production Rate:	<b>50 TPH P2O5 INPUT</b>	
5. Requested Maximum Operating Schedule:		
	<b>24</b> hours/day	<b>7</b> days/week
	<b>52</b> weeks/year	<b>8760</b> 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? <b>PAD A Train</b>		2. Emission Point Type Code: <b>1</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): <b>N/A</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>N/A</b>			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>85</b> feet	7. Exit Diameter: <b>2.5</b> feet	
8. Exit Temperature: <b>100</b> F	9. Actual Volumetric Flow Rate: <b>12000</b> acfm	10. Water Vapor: <b>N/A</b> %	
11. Maximum Dry Standard Flow Rate: <b>N/A</b> dscfm		12. Nonstack Emission Point Height: <b>N/A</b> 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): Maximum rate		
2. Source Classification Code (SCC): 3-01-023-01		3. SCC Units: Tons produced
4. Maximum Hourly Rate: 125	5. Maximum Annual Rate: 1,095,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 3,000/24=125 Maximum Annual Rate=3,000*365=1,095,000		

**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: <b>FL</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.675 lb/hour</b>		<b>2.96 tons/year</b>	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ <input checked="" type="checkbox"/> ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>0.0135 lb/ton of Input P2O5</b> Reference: <b>Proposed BACT</b>		7. Emissions Method Code: <b>O</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>FL = 0.0135 lbs/ton of P2O5 Input x 50 Tons/hr P2O5 = 0.675 lb/hr</b> <b>X 8760 hours x ton/2000 lbs = 2.96 tpy</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>There is a potential for fugitive emissions from the plant.</b>			

**Allowable Emissions** Allowable Emissions  1  of  1

1. Basis for Allowable Emissions Code: <b>Rule</b>	2. Future Effective Date of Allowable Emissions: <b>N/A</b>
3. Requested Allowable Emissions and Units: <b>0.0135 lb/ton P2O5 input</b>	4. Equivalent Allowable Emissions: <b>0.675 lb/hour 2.96 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA Method 13B</b>	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>BACT</b>	





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

**Continuous Monitoring System:** Continuous Monitor  2  of  2

1. Parameter Code: <b>PRS</b>	2. Pollutant(s): <b>N/A</b>
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: <b>Rosemount</b> Model Number: <b>1151DP3E22B1</b> Serial Number: <b>1582994</b>	
5. Installation Date: <b>10/01/82</b>	6. Performance Specification Test Date: <b>N/A</b>
7. Continuous Monitor Comment (limit to 200 characters):  <b>NSPS requirement.</b>	

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

**Supplemental Requirements**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <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 <b>Previously submitted</b>
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested <b>Previously submitted</b>
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: <b>Report</b> <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**

1. Type of Emissions Unit Addressed in This Section: (Check one) <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). <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. <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.			
2. Regulated or Unregulated Emissions Unit? (Check one) <input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit. <input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.			
3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):  <p style="text-align: center;"><b>Phosphoric Acid Plant B-Train</b></p>			
4. Emissions Unit Identification Number: <input type="checkbox"/> No ID      ID: <b>020</b> <input type="checkbox"/> ID Unknown			
5. Emissions Unit Status Code: <b>A</b>	6. Initial Startup Date: <b>N/A</b>	7. Emissions Unit Major Group SIC Code: <b>28</b>	8. Acid Rain Unit? [ ]
9. Emissions Unit Comment: (Limit to 500 Characters)			

**Emissions Unit Control Equipment**

1. Control Equipment/Method Description (Limit to 200 characters per device or method):  <b>VENTURI SCRUBBER</b>
2. Control Device or Method Code(s): <b>053</b>

**Emissions Unit Details**

1. Package Unit: <b>N/A</b> Manufacturer: Model Number:
2. Generator Nameplate Rating: <b>MW</b>
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:	N/A	
4. Maximum Production Rate:	<b>50 TPH P2O5 INPUT</b>	
5. Requested Maximum Operating Schedule:		
	<b>24</b> hours/day	<b>7</b> days/week
	<b>52</b> weeks/year	<b>8760</b> 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? <b>PAD B Train</b>		2. Emission Point Type Code: <b>1</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): <b>N/A</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>N/A</b>			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>85</b> feet	7. Exit Diameter: <b>2.5</b> feet	
8. Exit Temperature: <b>100</b> F	9. Actual Volumetric Flow Rate: <b>12000</b> acfm	10. Water Vapor: <b>N/A</b> %	
11. Maximum Dry Standard Flow Rate: <b>N/A</b> dscfm		12. Nonstack Emission Point Height: <b>N/A</b> 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):  <b>DIHYDRATE WET PROCESS</b>		
2. Source Classification Code (SCC): <b>3-01-016-01</b>		3. SCC Units: <b>TONS</b>
4. Maximum Hourly Rate: <b>50</b>	5. Maximum Annual Rate: <b>438,000</b>	6. Estimated Annual Activity Factor: N/A
7. Maximum % Sulfur: <b>N/A</b>	8. Maximum % Ash: <b>N/A</b>	9. Million Btu per SCC Unit: <b>N/A</b>
10. Segment Comment (limit to 200 characters):  <b>Maximum Hourly Rate = 50 tons P2O5 input</b>  <b>Maximum Annual Rate = 50 tph x 8760 hours = 438,000 tons P2O5 input</b>		

**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: <b>FL</b>	2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.675</b> lb/hour	<b>2.96</b> tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ <input checked="" type="checkbox"/> ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year		
6. Emission Factor: <b>0.0135 lbs/ton P2O5 input</b> Reference: <b>Proposed BACT</b>		7. Emissions Method Code: <b>O</b>
8. Calculation of Emissions (limit to 600 characters):  <b>FL = 0.0135 lb/ton P2O5 input x 50 tons/hr P2O5 input = 0.675 lb/hr</b> <b>X 8760 hours x ton/2000 lbs = 2.96 tpy</b>		
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>There is a potential for fugitive emissions from this plant.</b>		

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>Rule</b>	2. Future Effective Date of Allowable Emissions: <b>N/A</b>	
3. Requested Allowable Emissions and Units: <b>0.0135 lb/ton P2O5 input</b>	4. Equivalent Allowable Emissions: <b>0.675</b> lb/hour <b>2.96</b> tons/year	
5. Method of Compliance (limit to 60 characters): <b>EPA Method 13B</b>		
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>BACT</b>		



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

**Continuous Monitoring System:** Continuous Monitor  2  of  2

1. Parameter Code: <b>PRS</b>	2. Pollutant(s): <b>N/A</b>
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information: Manufacturer: <b>Rosemount</b> Model Number: <b>1151DP3E22B1</b> Serial Number: <b>371059</b>	
5. Installation Date: <b>10/01/82</b>	6. Performance Specification Test Date: <b>N/A</b>
7. Continuous Monitor Comment (limit to 200 characters):  <b>NSPS requirement.</b>	

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

**Supplemental Requirements**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <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 <b>Previously submitted.</b>
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested <b>Previously submitted.</b>
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: <b>Report</b> <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 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 style="text-align: center;"><b>Phosphoric Acid Tank Farm</b></p>			
<p>4. Emissions Unit Identification Number:</p> <p style="text-align: center;"><input type="checkbox"/> No ID      ID: <b>021</b>      <input type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p style="text-align: center;"><b>A</b></p>	<p>6. Initial Startup Date:</p> <p style="text-align: center;"><b>N/A</b></p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p style="text-align: center;"><b>28</b></p>	<p>8. Acid Rain Unit?</p> <p style="text-align: center;"><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p>    			



**Emissions Unit Control Equipment**

<p>1. Control Equipment/Method Description (Limit to 200 characters per device or method):</p> <p style="margin-left: 40px;"><b>VENTURI SCRUBBER</b></p>
<p>2. Control Device or Method Code(s): <b>053</b></p>

**Emissions Unit Details**

<p>1. Package Unit: <b>N/A</b>          Manufacturer:          Model Number:</p>						
<p>2. Generator Nameplate Rating: <span style="float: right;"><b>MW</b></span></p>						
<p>3. Incinerator Information:</p> <table style="width: 100%; margin-left: 100px;"> <tr> <td style="text-align: right;">Dwell Temperature:</td> <td style="text-align: right;">°F</td> </tr> <tr> <td style="text-align: right;">Dwell Time:</td> <td style="text-align: right;">seconds</td> </tr> <tr> <td style="text-align: right;">Incinerator Afterburner Temperature:</td> <td style="text-align: right;">°F</td> </tr> </table>	Dwell Temperature:	°F	Dwell Time:	seconds	Incinerator Afterburner Temperature:	°F
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:	N/A	
4. Maximum Production Rate:	100 TPH P2O5 INPUT	
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? <b>PAD Tank Farm</b>		2. Emission Point Type Code: <b>1</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): <b>N/A</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  <b>N/A</b>			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>60</b> feet	7. Exit Diameter: <b>2</b> feet	
8. Exit Temperature: <b>90</b> F	9. Actual Volumetric Flow Rate: <b>8,400</b> acfm	10. Water Vapor: <b>N/A</b> %	
11. Maximum Dry Standard Flow Rate: <b>N/A</b> dscfm		12. Nonstack Emission Point Height: <b>N/A</b> feet	
13. Emission Point UTM Coordinates:  Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):  <b>2 54% ACID STORAGE TANKS</b> <b>1 29% ACID STORAGE TANK</b> <b>1 29% OR 49% ACID STORAGE TANK</b> <b>1 40% ACID STORAGE TANK</b> <b>2 29% ACID CLARIFIER TANKS</b> <b>3 40% ACID CLARIFIER TANKS</b> <b>2 PHOSPHORIC ACID MIX TANKS</b> <b>2 FLUOSILICIC ACID TANKS</b> <b>1 54% ACID CLARIFIER TANK</b>			

**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):  <b>DIHYDRATE WET PROCESS ACID TANKS</b>		
2. Source Classification Code (SCC): <b>3-01-016-99</b>		3. SCC Units: <b>TONS</b>
4. Maximum Hourly Rate: <b>100</b>	5. Maximum Annual Rate: <b>876,000</b>	6. Estimated Annual Activity Factor: <b>N/A</b>
7. Maximum % Sulfur: <b>N/A</b>	8. Maximum % Ash: <b>N/A</b>	9. Million Btu per SCC Unit: <b>N/A</b>
10. Segment Comment (limit to 200 characters):  <b>Maximum Hourly Rate = 100 tons P2O5 input</b>  <b>Maximum Annual Rate = 100 tph P2O5 input x 8760 hours = 876,000 tons P2O5 input</b>		

**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: <b>FL</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>1.0</b> lb/hour		<b>4.4</b> tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ <input checked="" type="checkbox"/> ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>1 lb/hr</b> Reference: <b>BACT</b>		7. Emissions Method Code: <b>O</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>FL = 1.0 lb/hr</b> <b>X 8760 hours x ton/2000 lbs</b> <b>= 4.4 tpy</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>There is a potential for fugitive emissions from this emissions unit.</b>			

**Allowable Emissions** Allowable Emissions  1  of  1

1. Basis for Allowable Emissions Code: <b>Rule</b>	2. Future Effective Date of Allowable Emissions: <b>N/A</b>
3. Requested Allowable Emissions and Units: <b>1 lb/hr</b>	4. Equivalent Allowable Emissions: <b>1.0</b> lb/hour <b>4.4</b> tons/year
5. Method of Compliance (limit to 60 characters): <b>EPA Method 13B</b>	
6. Allowable Emissions Comment (Desc. of Operating Method) (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: <b>Report</b> <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 <b>Previously submitted.</b>
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested <b>Previously submitted.</b>
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: <b>Report</b> <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

SUPPLEMENTAL REPORT IN SUPPORT OF PSD APPLICATION  
FOR

INCREASE IN SULFURIC ACID PRODUCTION  
AND  
PHOSPHORIC ACID PRODUCTION

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

REPORT PREPARED BY

KOOGLER & ASSOCIATES  
4014 NW 13<sup>TH</sup> STREET  
GAINESVILLE, FLORIDA  
(352) 377-5822

JUNE, 2000

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### APPENDICES

- A. Calculations
- B. Copy of Current Permit

## 1.0 INTRODUCTION

As part of the PSD project currently under FDEP review for the sulfuric acid production increase at the Ft. Meade facility, US Agri-Chemicals Corporation (USAC) proposes to increase the phosphoric acid production rate from 44 tons per hour (tph) to 50 tph P<sub>2</sub>O<sub>5</sub> input for each of the A and B trains. The plant description, detailed in the Title V permit, is included in Appendix B. Pumps and piping will be upgraded, as necessary, to accomplish the production increase. No major equipment changes are proposed. The increase in phosphoric acid production rate will result in an increase in throughput at the phosphoric acid tank farm. No other emission units will be affected by the proposed project.

The proposed phosphoric acid 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. As a technical evaluation has already been submitted on this project with regards to the sulfuric acid plants, this supplemental report is intended to supplement the information previously submitted and specifically addresses the BACT and air impact analyses pursuant to Rule 62-212, FAC. Air dispersion modeling for fluorides has not been conducted as it is not required.

USAC proposes the continued use of the existing venturi scrubbers as BACT and will limit fluoride emissions from the phosphoric acid plant to 0.0135 lb/ton P<sub>2</sub>O<sub>5</sub> input; and, limit fluoride emissions from the tank farm to 1.0 lb/hr.

## 2.0 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 25 percent increase in the annual production rate of the two existing phosphoric acid trains, A and B. The proposed maximum production rate for each train, of 50 tph P<sub>2</sub>O<sub>5</sub> input, will result in a total of 100 tph P<sub>2</sub>O<sub>5</sub> input. The existing evaporator system will concentrate the acid from both trains. Acid of varying strengths will be stored in the existing tank farm. Several venturi scrubbers, as shown on the process flow diagrams presently control the fluoride emissions. No major equipment changes are expected to be necessary to accomplish the production increase.

### 2.1 EMISSION STANDARDS FOR PHOSPHORIC ACID PLANTS

Federal New Source Performance Standards (NSPS) for wet process phosphoric acid plants, codified in 40 CFR 60, Subpart T, limit fluoride emissions to no more than 0.02 pounds per ton P<sub>2</sub>O<sub>5</sub> input. For the purposes of the standard, the affected facility includes any combination of reactors, filters, evaporators and hot wells. It should be noted that phosphoric acid product storage tanks are not included under the standard as they are not an affected facility.

More recently, additional federal standards were promulgated under 40 CFR 63 Subpart AA, National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing Plants. The fluoride emission standard under these NESHAPs for existing phosphoric acid plants is

identical to that under NSPS, at 0.02 lb/ton P2O5 feed. The fluoride emission standard for new plants is limited to 0.0135 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.

There are no fluoride emission standards for tank farms.

## 2.2 CONTROL TECHNOLOGIES

The most common pollution control equipment used to control fluorides from a wet process phosphoric acid 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.

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 popular 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 for each train separately.

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



## 5.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

No adverse effects are expected on the soils, vegetation or visibility from the fluorides emissions associated with the proposed phosphoric acid production increase based on past FDEP assessment of fluoride levels in the vicinity of the proposed project. In fact, FDEP has discontinued monitoring of ambient fluorides in Polk County for many years.

The proposed modification will require no increase in personnel to operate the plant. Therefore, no additional growth impacts are expected as a result of the proposed phosphoric acid production increase.

## 6.0 IMPACTS ON AIR QUALITY RELATED VALUES

By prorating the predicted NOx impacts, the Class I area fluoride impact for the annual period is conservatively estimated to be less than 0.0001 ug/m<sup>3</sup>, calculated as ((9 tpy F/65.7 tpy NOx) x 0.0007 ug NOx /m<sup>3</sup>). A maximum 24-hour averaging period exposure can be similarly estimated at 0.074 ug/m<sup>3</sup>. The lowest observed effect levels for sensitive plants were reported in the range of 1.6 ug/m<sup>3</sup> for the 24-hour period (study by Applied Sciences Associates, Inc. 1978).

Based on the low fluorides levels, no adverse impacts are expected on the air quality related values of the soils, vegetation and wildlife in the nearest Class I area, Chassahowitzka National Wildlife Refuge, located more than 100 km from the proposed project. As fluorides are not visible, no adverse visibility impacts are expected from the proposed project.

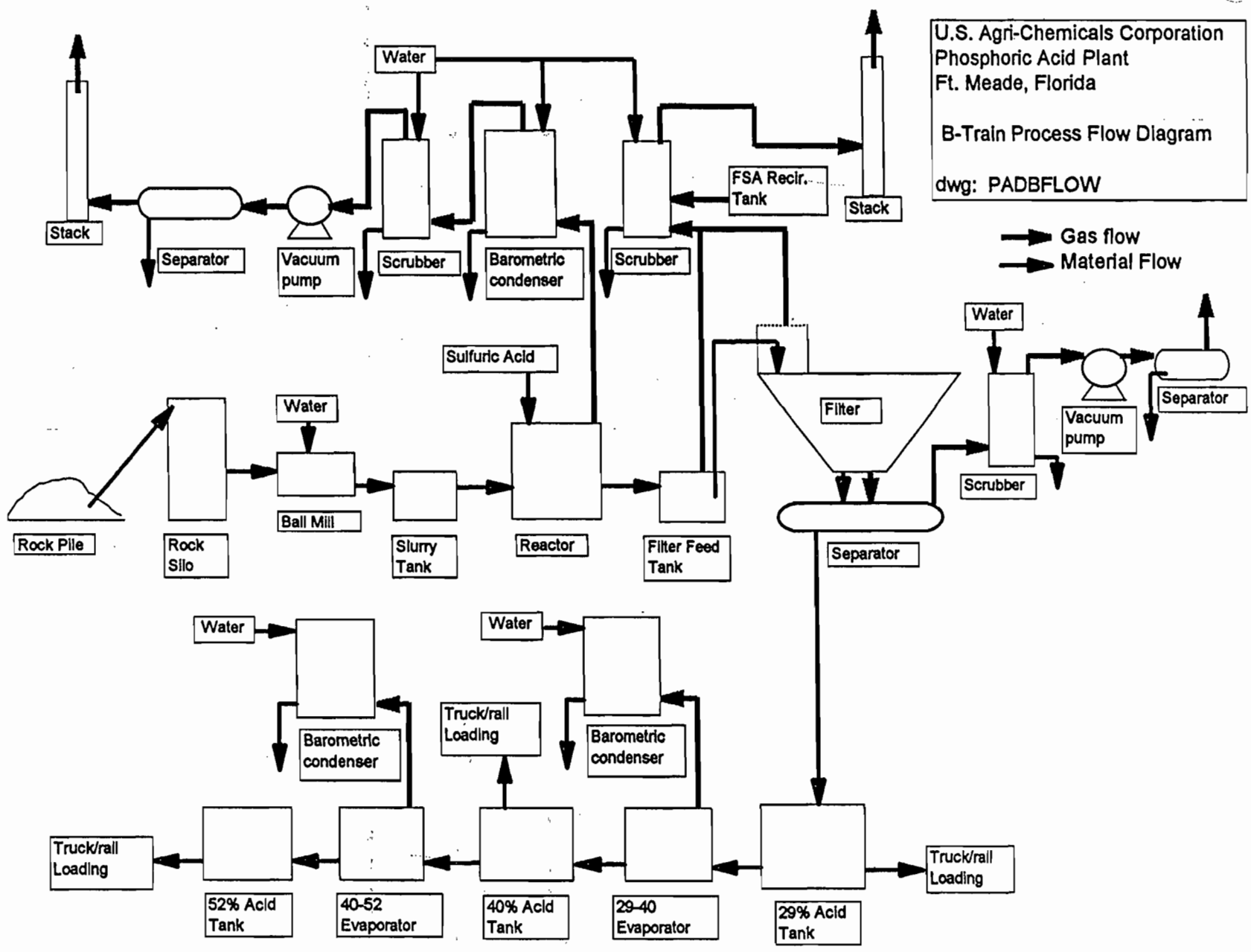
## 7.0 CONCLUSION

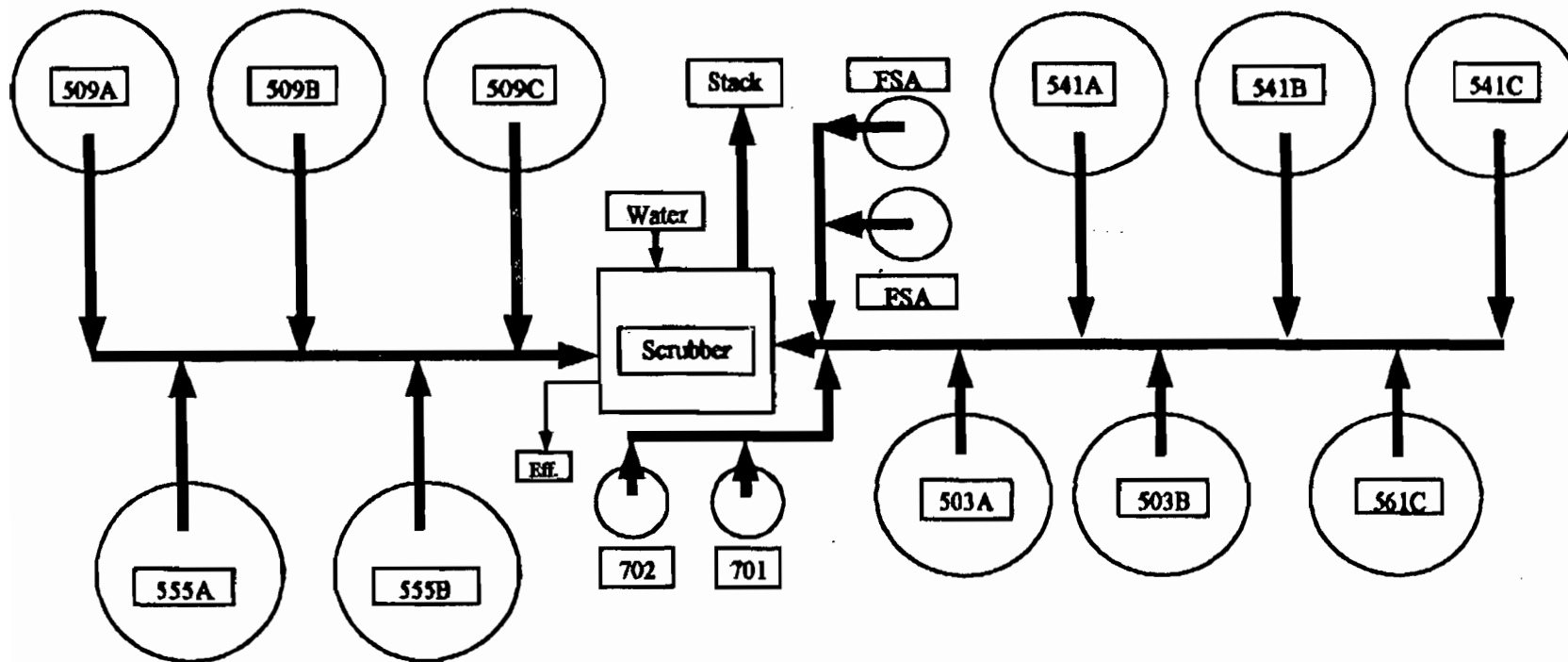
It can be concluded from the information in this report that the proposed increase in the production rate of the phosphoric acid plants, as described in this report, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.





U.S. Agri-Chemicals Corporation  
 Phosphoric Acid Plant  
 Ft. Meade, Florida  
 B-Train Process Flow Diagram  
 dwg: PADBFLOW





509A 29% Storage
509B 29% or 40% Stor-
509C 40% Storage
555A 54% Storage
555B 54% Storage
701 Acid Mix Tanks
702 Acid Mix Tanks
503A 29% Clarifier
503B 29% Clarifier
541A 40% Clarifier
541B 40% Clarifier
541C 40% Clarifier
561C 54% Clarifier

→ Gas Flow

US Agri-Chemicals Corporation  
 Phosphoric Acid Plant  
 Ft. Meade, Florida  
 Tank Farm Process Flow Diagram  
 dwg: Tank Farm.pub

## APPENDIX A

### PHOSPHORIC ACID PLANT EMISSIONS CALCULATIONS

#### CURRENT ACTUAL EMISSION RATES

Based on 1998 and 1999 compliance tests, the actual emissions can be summarized as follows:

Unit	Year	Hours Operated	F. Emission Rate (lb/hr)	F. Emissions (tpy)
A train	1998	7558	0.061	0.231
B train	1998	7497	0.029	0.109
Tank Farm	1998	8760	0.54	<u>2.360</u>
1998 Total F =				2.70
A train	1999	7636	0.039	0.149
B train	1999	7697	0.046	0.180
Tank Farm	1999	8760	0.10	<u>0.440</u>
1999 Total F =				0.77

Two year average =  $(2.7 + 0.77) / 2 = 1.74$

Note: Tpy emissions are calculated as: lb/hr x hrs/yr / 2000 lbs/ton

#### PROPOSED ALLOWABLE EMISSION RATES

$$\begin{aligned} \text{A Train, F} &= 50 \text{ tph P2O5} \times 0.0135 \text{ lb F/ton P2O5} \\ &= 0.675 \text{ lb/hr} \\ &\quad \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 2.96 \text{ tpy} \end{aligned}$$

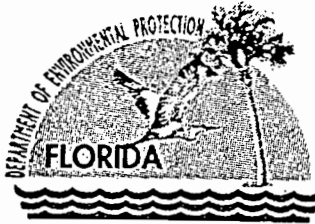
$$\begin{aligned} \text{B Train, F} &= 50 \text{ tph P2O5} \times 0.0135 \text{ lb F/ton P2O5} \\ &= 0.675 \text{ lb/hr} \\ &\quad \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 2.96 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{Tank Farm, F} &= 1.0 \text{ lb/hr} \\ &\quad \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\ &= 4.38 \text{ tpy} \end{aligned}$$

#### NET EMISSIONS INCREASES

$$\begin{aligned} \text{F} &= (2.96 + 2.96 + 4.38 - 1.74) \text{ tpy} \\ &= 8.6 \text{ tpy (exceeds PSD significant level of 3 tpy)} \end{aligned}$$

**APPENDIX B - CURRENT AIR 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).**

**E.U.**

<b><u>ID No.</u></b>	<b><u>Brief Description</u></b>
-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.*

### Section III. Emissions Unit(s) and Conditions.

Subsection A. This section addresses the following emissions unit(s).

#### E.U.

<u>ID No.</u>	<u>Brief Description</u>
-005	Phosphoric Acid Plant A-Train
-020	Phosphoric Acid Plant B-Train
-021	Phosphoric Acid Plant Tank Farm

The maximum permitted process input rate for Phosphoric Acid Plants A and B is 44 tons per hour (1,056 tons per day as  $P_2O_5$ ) for each plant. Fluoride emissions from phosphoric acid production are controlled by a 12,000 ACFM venturi scrubber at each plant.

The phosphoric acid tank farm at the Fort Meade Plant is used for the storage of phosphoric acid and fluorosilicic acid. Two phosphoric acid production trains designated as "A" and "B", produce the acid stored in the tank farm. The tank farm consists of: 2 - 54% product tanks, 1 - 29% storage tank, 1 - 29% or 40% storage tank, 1 - 40% storage tank, 2 - 40% clarifier tanks, 2 - 29% clarifier tanks, 2 - phosphoric acid mix tanks, and 2 - fluorosilicic acid tanks.

Fluoride emissions from the tank farm are controlled by a venturi scrubber which exhausts at approximately 6,000 ACFM. The scrubber uses pondwater as the scrubbing liquid. Liquid flow rate to the scrubber is approximately 475 gpm at 35 psig and the pressure drop across the scrubber is approximately 2 inches water gauge (w.g.).

The phosphoric acid evaporator system (Nos. 1 through 5) concentrates acid from both A-Train and B-Train Phosphoric Acid Plants. It can be used to concentrate 29% acid to 40% acid or 40% acid to 52% acid or 29% acid to 52% acid. The phosphoric acid evaporator system consists of evaporators, hydrofluorosilicic acid (FSA) towers, FSA recirculation tanks, barometric condensers, inter-condensers, steam ejectors, ejector seal tanks, and hot well sumps. Fluoride emissions from the FSA recirculation tank are vented to the A-Train scrubber. There is an insignificant amount of fugitive fluoride emissions from the hot well sumps and the ejector seal tanks.



{Permitting note(s): These emissions units are regulated under NSPS - 40 CFR 60, Subpart T, Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants, adopted and incorporated by reference in Rule 62-204.800(7)(b)25., F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); 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**

**A.1. Capacity.** The maximum process input rate of phosphorus bearing feed material to either Plant A or Plant B shall not exceed 44 tons per hour as  $P_2O_5$  on a 24-hour basis (1,056 tons per day).

[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE), AC53-103830 and AC53-103831]

{Permitting Note: The maximum throughput rate for the tank farm is limited by the process rate from the "A" and "B" phosphoric acid production trains.}

**A.2. Hours of Operation.** The hours of operation for this emissions unit shall not exceed the following:

- a. Phosphoric acid production equipment - 7,968 hours/year.
- b. Evaporation and tank farm - 8,760 hours/year.

[Rule 62-210.200, F.A.C., Definitions - (PTE), Air Construction Permits AC53-103830 and AC53-103831]

**Emission Limitations and Standards**

**A.3. Total fluoride emissions<sup>(1)</sup>** from each phosphoric acid plant (Plant A or Plant B) shall not exceed any of the following:

- a. 0.02 pound per ton of "equivalent  $P_2O_5$  feed"<sup>(2)</sup>;
- b. 0.88 pound per hour;
- c. 21.1 pounds per day;
- d. 3.5 tons per year.

Fluoride emissions from each plant (Plant A or B) shall be defined as the sum of the fluoride emissions from the (Plant A and Plant B) phosphoric acid production facilities and one half of the fluoride emissions from the clarification and storage areas.

[AC53-103830, AC53-103831, Rule 204.800(7)(b)25, F.A.C., and 40 CFR 60.202(a)].

**A.4. Visible emissions** from the Phosphoric Acid Plant A and Plant B scrubber exhausts, phosphoric acid plant tank farm, and associated processing equipment shall not be equal to or greater than 20% opacity.

[Rule 62-296.320(4)(b), F.A.C.]

**Test Methods and Procedures**

A.5. The permittee shall test all 3 stacks' emissions simultaneously or within 5 days for fluoride emissions and visible emissions annually, on or during the 60 day period prior to November 29. The 3 stacks to be tested are: the clarification and storage tank farm venturi scrubber stack and the "A" and "B" production trains' venturi scrubber stacks. [Construction Permit AC53-103831, and Rules 62-297.310(7)(a)4, F.A.C. and 62-4.070(3), F.A.C.]

A.6. Compliance with the fluoride and visible emissions limitations of Conditions A.3 and A.4 shall be determined using EPA Methods 1, 2, 4, 9 and 13A or 13B as contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 62-297, F.A.C. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. The minimum requirements for stack sampling facilities, sampling and reporting, shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 60, Appendix A.

**Monitoring of Operations**

A.7. In order to provide reasonable assurance, when the phosphoric acid plants (Trains A and B) and the clarification and storage tank farm 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.]

A.8. 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 for each scrubber. 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 8 hour shift that either Phosphoric Acid Plant Train A or B 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.]

**Continuous Monitoring Requirements**

**A.9.** 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  $\pm 5\%$  over its operating range.  
[Rule 62-204.800(7)(b)25, F.A.C. and 40CFR60.203(a)]

**A.10.** The permittee shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across each venturi scrubbing system. The monitoring device shall have an accuracy of  $\pm 5\%$  over its operating range.  
[Rule 62-204.800(7)(b)25, F.A.C. and 40CFR60.203(c)]

**Recordkeeping and Reporting Requirements**

**A.11.** The permittee shall maintain a daily record of the "equivalent  $P_2O_5$  feed"<sup>(2)</sup> rate for Phosphoric Acid Plant Trains A and B according to the procedure specified in 40CFR60.203(b)- Monitoring of Operations. This daily log shall be maintained at the facility and shall be made available to the Department upon request.  
[40CFR60.203 and Rules 62-4.070(3), F.A.C. and 62-204.800(7)(b)25, F.A.C.]

**A.12.** The monitoring devices required by Conditions A.9 and A.10 for the equivalent  $P_2O_5$  feed rate and the total pressure drop measurement across the scrubber are considered inoperative when they are out-of-service or fail to produce valid data. Upon the occurrence of 48 consecutive hours of continuous monitoring system downtime, the permittee shall notify the Air Compliance Section, Southwest District Office of the Department of Environmental Protection by 5:00 p.m. on the Department's next business day, of the incident and specify the corrective action being pursued.  
[Rules 62-4.130, and 62-4.160(8), F.A.C.]

Notify:            Air Compliance Supervisor  
                      Southwest District Office  
                      Department of Environmental Protection  
                      Telephone: (813) 744-6100  
                      FAX: (813) 744-6458

**A.13.** All test reports submitted to the Department shall include, at a minimum, the following information for the test period:

- a. the production rate ("equivalent  $P_2O_5$  feed"<sup>(2)</sup> rate),
- b. the input rate to the tank farm,
- c. the tank farm unloading rate, and
- d. for each scrubber
  1. type of scrubber liquid,
  2. volumetric liquid flow rate (gpm) and/or water pressure (psig), and
  3. gas pressure drop ("w.g.).

[Construction Permit Nos. AC53-103830 and AC53-103831, Rules 62-4.070(3), 62-4.160(14)(b), and 62-4.160(14)(c), F.A.C.]

Failure to submit the above information, or operating at conditions which do not reflect normal operating conditions may invalidate the test and fail to provide reasonable assurance of compliance.

[Rule 62-4.070(3), F.A.C.]

#### **Reasonable Assurances**

**A.14.** The wetted area in the gypsum disposal area and the process cooling pond shall not be increased without prior approval from the Department.

[Rule 62-4.070(3), F.A.C. and Construction Permit Nos. AC53-103830 and AC53-103831]

**A.15.** All reasonable precautions shall be taken to minimize and control the generation of fugitive fluoride emissions.

[Rule 62-4.070(3), F.A.C.]

<sup>(1)</sup> **"Total Fluoride Emissions"** - elemental fluorine and all fluoride compounds as measured by reference methods specified in 40 CFR 60.204, or equivalent or alternative methods.

<sup>(2)</sup> **"Equivalent  $P_2O_5$  Feed Rate"** - the quantity of phosphorus, expressed as phosphorous pentoxide, feed to the process.



**KOOGLER & ASSOCIATES**  
**ENVIRONMENTAL SERVICES**  
4014 NW THIRTEENTH STREET  
GAINESVILLE, FLORIDA 32609  
352/377-5822 • FAX/377-7158

KA 173-99-02

May 30, 2000

BUREAU OF AIR REGULATION

JUN 02 2000

RECEIVED

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

Subject: Additional Time to Respond to FDEP Letter  
US Agri-Chemicals Corporation  
File PSD-FL-278, 1050051-009-AC

Dear Mr. Arif:

This is a follow up to our telephone conversation regarding a response to questions raised by FDEP on the above referenced project.

As indicated to you, we will be submitting a response very shortly. Based on our conversation, it is our understanding that you have no objection to an additional 30-day period for us to submit our response.

If you have any questions, please do not hesitate to call me.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep Raval

par

c: Jerry Girardin, USAC

Do not throw this FAX Away. SA  
PROJECT 173-99-02



KOGLER & ASSOCIATES  
ENVIRONMENTAL SERVICES

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

FAX TRANSMITTAL FORM

TO: Syed Arif  
FDER - BAR

FAX NO. \_\_\_\_\_  
FROM: Pradeep Raval  
DATE: 5/30/00 SENT BY: R

The text being transmitted consists of 1 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, Thanks for flagging the clock as I was not aware of the 90-day requirement.  
Regards,  
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.

**KOOGLER & ASSOCIATES**  
**ENVIRONMENTAL SERVICES**4014 NW THIRTEENTH STREET  
GAINESVILLE, FLORIDA 32609  
352/377-5822 • FAX/377-7158

KA 173-99-02

May 30, 2000

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

Subject: Additional Time to Respond to FDEP Letter  
US Agri-Chemicals Corporation  
File PSD-FL-278, 1050051-009-AC

Dear Mr. Arif:

This is a follow up to our telephone conversation regarding a response to questions raised by FDEP on the above referenced project.

As indicated to you, we will be submitting a response very shortly. Based on our conversation, it is our understanding that you have no objection to an additional 30-day period for us to submit our response.

If you have any questions, please do not hesitate to call me.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep Raval

par

c: Jerry Girardin, USAC



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

March 3, 2000

## CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Steven J. Susick, P.E.  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric Acid Plants No. 1 and 2

Dear Mr. Susick:

The Department has received your response to our November 3, 1999 incompleteness letter to you regarding an air construction permit for modification to the existing Sulfuric Acid Plants No. 1 and 2. The response was received on February 2, 2000. In order to expedite the application, we need the additional information listed below:

1. 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. Please resubmit the response including the certification as required by Rule 62-4.050(3), F.A.C.
2. Please resubmit the appropriate pages of the application to reflect the sulfuric acid mist (SAM) emissions of 0.12 lb/ton. Also, redo the table for net emissions increase based on the new limit for SAM. The original application was based on 0.15 lb/ton.
3. Please show all the calculations for the net emissions increase for SO<sub>2</sub> and NO<sub>x</sub> based on the data submitted in the response letter.
4. The actual emissions for SO<sub>2</sub> and SAM submitted with the response for the last five years indicate that the stack testing was probably conducted under optimum conditions. The low emissions are probably not a true indicator of the day to day emissions from the plants. Please submit an analysis of SO<sub>2</sub> emissions based on the CEM readings. The analysis should be done for the years 1998 and 1999, and should include monthly range of SO<sub>2</sub> emissions for both plants during those two years.

*"More Protection, Less Process"*

*Printed on recycled paper.*



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**SENDER:**

- Complete items 1 and/or 2 for additional services.
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- 1.  Addressee's Address
  - 2.  Restricted Delivery
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3. Article Addressed to:  
 Steven J. Susick, PE  
 General Manager, ETTS  
 US Agri-Chemicals Corp.  
 3225 State Road 630 West  
 Fort Meade, FL 33541

4a. Article Number  
Z 031 391 875

4b. Service Type  
 Registered  Certified  
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3-8-00

5. Received By: (Print Name)

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6. Signature: (Addressee or Agent)  
X *[Signature]*

PS Form 3811, December 1994

102595-98-B-0229 Domestic Return Receipt

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Z 031 391 875

US Postal Service  
**Receipt for Certified Mail**

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Do not use for International Mail (See reverse)

Sent to	<i>Steven Susick</i>
Street & Number	<i>US Agri Chemicals Corp.</i>
Post Office, State, & ZIP Code	<i>630W / 3225 State Road Ft Meade, FL 33541</i>
Postage	\$ <i>33841</i>
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>3-3-00</i>
	<i>1050051-009-Ac</i>
	<i>PSD-FL-275</i>

PS Form 3800, April 1995

5. Please indicate the use for the additional sulfuric acid. If the acid is being used to increase the actual production in the Phosphoric Acid plants or other downstream units, then additional analysis may be required for those emission units. Please provide an accounting summary of the past and future sulfuric acid utilization for the facility.
6. What was the significant impact radius for SO<sub>2</sub>? Please provide a map showing the location of all receptor locations used in the SO<sub>2</sub> and NO<sub>2</sub> significant impact modeling. The modeling diskettes submitted with the application did not include all of the significant impact modeling input/output files. Please provide all of these files. In addition please explain the difference between the aqsyinv.out and the aqsyinv.ano (where yy represents the year of the model run, i.e., aqs88inv.out) files.
7. Tables 2-2 and 2-6, which present the modeling results, do not provide information on the location of the maximum concentrations. These locations should be provided. From our review of the modeling diskettes, some of the predicted maximum SO<sub>2</sub> PSD Class II increment and SO<sub>2</sub> AAQS modeling impacts provided to us are located at receptors on the edge of the receptor grid. Evaluation of maximum impacts should not be terminated at the edge of a receptor grid. In addition maximum predicted impacts from screening modeling should be refined to 100 m resolution around the points of maximum impacts. In Table 2-6 the values for the 3 and 24-hour averaging times represent the highest-high impacts. For regulatory purposes the table should present the highest-second high impact. Also in Table 2.6 the values for the modeled annual SO<sub>2</sub> impacts should be 39.0, 37.1, 48.1, 35.6 and 40.5 for the years 1987, 1988, 1989, 1990 and 1991. Please update this table after all required refined modeling is performed.
8. At what distance from the plant did the SO<sub>2</sub> multisource inventory end? There are discrepancies in information between Tables 2-3, 2-4 and 2-6. For instance in Table 2-3, FPL Ft Myers is designated NAAQS and YES in the significant column, but this entry does not appear in Table 4, the AAQS table. Another example is FPC Crystal River which is designated BOTH and YES in the significant column but does not appear in Tables 2-4 or 2-6 as would be indicated from the information given in Table 2-3. Please explain these and any other discrepancies between these tables.
9. More information is needed to allow the Department to determine the extent of the ambient air exemption on USAgrichem's property. 40 CFR Part 50.1(e) defines ambient air as "...that portion of the atmosphere, external to buildings, to which the general public has access." The exemption from ambient air is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers. Please provide a detailed USGS map or the equivalent showing the location of the fenceline and/or any other physical barriers equivalent to a fence.
10. SO<sub>2</sub> Background concentrations for use in the AAQS analysis are needed for the 3 and 24-hour averaging times. The Department recommends the use of 138 ug/m<sup>3</sup> and 42 ug/m<sup>3</sup> as background concentrations for the 3 and 24-hour averaging. These values are based on 1998 monitoring data from Mulberry SO<sub>2</sub> monitor 12-105-2006. Alternative values may be determined for these averaging times by using the procedures found in section 9.2 of the

modeling guidelines (40CFR Part 51, Appendix W-Guideline on Air Quality Models (Revised), adopted and incorporated by reference in Rule 62-204.800, F.A.C.).

11. The years 1987-1991 were used in the ISCST3 model runs. These ISCST3 runs identified 1989 as generally providing the maximum concentrations. The reason the year 1990 was chosen for the CALPUFF modeling should be provided.
12. Confirmation is needed that all modeled concentrations in excess of the PSD Class I 3-hour and 24-hour increments are included in Table 2-7.

Enclosed are the preliminary comments from the U.S. Fish and Wildlife Service. Please respond to their concerns about this project. Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

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,



A. A. Linero, P.E., Administrator  
Bureau of Air Regulation

Enclosure

AAL/sa

Cc: John B. Koogler, P.E., K & A  
Bill Thomas, DEP SWD  
Gregg Worley, EPA Region IV  
John Bunyak, NPS

**BEST AVAILABLE COPY**

**Preliminary Review of Prevention of Significant Deterioration  
Permit Application for U.S. Agri-Chemicals Corporation  
Ft. Meade, Florida  
PSD-FL-278**

by

**Air Quality Branch, U. S. Fish and Wildlife Service – Denver  
February 28, 2000**

**Background**

U.S. Agri-Chemicals (USAC) is proposing to increase production by 20% at two sulfuric acid plants at its Fort Meade facility. The facility is located in Polk County, 140 km southeast of Chassahowitzka Wilderness, a Class I air quality area administered by the U.S. Fish and Wildlife Service. This project will result in PSD-significant increases in emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfuric acid mist (SAM). Emissions (in tons per year – TPY) are summarized below.

POLLUTANT	EMISSIONS INCREASE (TPY)
SO <sub>2</sub>	1916
NO <sub>x</sub>	79
SAM	133

**Best Available Control Technology (BACT) Review**Sulfuric Acid Mist (SAM)

USAC is proposing a limit of 0.12 lb SAM/ton of 100 percent acid produced. We agree that this limit is BACT.

Sulfur Dioxide

USAC investigated the addition of a catalyst bed to a double absorption sulfuric acid plant, ammonia scrubbing, other types of scrubbing, molecular sieves, alternate catalysts, and the centaur process. They determined that the addition of 84,600 liters of catalyst would allow them to meet a limit of 3.5 lb SO<sub>2</sub>/ton of acid produced limit. This level has been accepted as BACT at similar facilities. However, we would suggest that USAC investigate Mississippi Phosphate, which proposed an SO<sub>2</sub> limit of 3.16 lb/ton in 1997 for its Pascagoula Plant. The Environmental Protection Agency's (EPA) New Source Review/BACT guidance requires that "when reviewing a control technology with a wide range of emission performance levels, it is presumed that the source can achieve the same emission reduction level as another source unless the applicant demonstrates that there are source-specific factors or other relevant information that provide a technical, economic, energy or environmental justification to do otherwise." Based on past

**BEST AVAILABLE COPY**

emissions data provided in USAC's February 1, 2000 letter to the Florida Department of Environmental Protection, USAC should be able to meet a limit of 3.16 lb SO<sub>2</sub>/ton or better.

**Other Issues**

USAC should verify that the increase in sulfuric acid production would not increase emissions in other areas of the facility. If there are other emissions increases, these need to be quantified and evaluated for PSD significance.

**Conclusions**

We agree that USAC's proposed limit for SAM of 0.12 lb/ton of 100 percent acid produced is BACT. However, USAC's proposed limit for SO<sub>2</sub> of 3.5 lb/ton may be high. USAC should demonstrate why they couldn't meet a 3.16 lb SO<sub>2</sub>/ton limit or better.

**Air Quality Impacts Analysis**

USAC evaluated the proposed project's contribution to Class I increments in Chassahowitzka Wilderness. Impacts for both the 3-hour and 24-hour Class I SO<sub>2</sub> increments exceeded EPA's proposed significant impact levels. Therefore, USAC did a cumulative analysis, modeling emissions from all SO<sub>2</sub> increment-consuming sources in the area. The results of the analysis predicted that, on days when USAC's increment consumption was significant, there were no exceedances of the increments. Therefore, we do not object to this project on the basis of increment consumption. However, we ask that USAC provide us with the results of their analysis for the days with the highest cumulative impacts so that we can determine if any increment exceedances were predicted.

**Air Quality Related Values Analysis**

USAC evaluated the project's contribution to haze. The CALPUFF model predicted that the project would increase light extinction by 2.7%, below the recommended threshold of 5%.

Our comments are preliminary and will be followed by a more detailed review of the proposed project.

Contact: Ellen Porter, Air Quality Branch (303) 969-2617.

Z 031 391 875

US Postal Service

Receipt for Certified Mail

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Sent to	Steven Susick
Street & Number	US Agri-Chemicals Corp.
Post Office, State, & ZIP Code	32225 State Road 630 West, Ft Meade, FL 33841
Postage	\$ 33.84
Certified Fee	
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TOTAL Postage & Fees	\$
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PS Form 3800, April 1995

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3. Article Addressed to:

Steven J. Susick, PE  
General Manager, E+TS  
US Agri-Chemicals Corp.  
32225 State Road 630 West  
Fort Meade, FL 33841

4a. Article Number

Z 031 391 875

4b. Service Type

- Registered  Certified
- Express Mail  Insured
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7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

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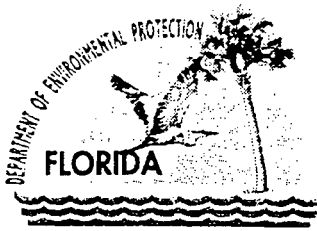
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PS Form 3811, December 1994

102595-98-B-0229

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Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

November 3, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Steven J. Susick, P.E.  
General Manager, E&TS  
U.S. Agri-Chemicals Corp.  
3225 State Road 630 West  
Fort Meade, Florida 33841-9799

Re: DEP File No. 1050051-009-AC, PSD-FL-278  
Sulfuric Acid Plants No. 1 and 2

Dear Mr. Susick:

We received the referenced application on October 18, 1999. We are providing our comments based on the initial review of the application. Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

We appreciate that the plants were previously permitted to increase production to 3,000 tons per day of sulfuric acid. Apparently they were not actually modified to achieve that rate. Please provide estimates of past actual annual production and maximum daily production. Please provide more specific information regarding the type of catalyst to be used and the approximate amounts to be introduced into the various converters.

We did locate the application submitted in 1984. It is helpful but obviously not up to date. Please note that the background information has changed substantially with respect to the impacts of industry on the surrounding PSD Class II areas and the nearest PSD Class I (Chassahowitzka) area. Analyses need to be performed that demonstrate that the project will not cause or contribute to violations of any ambient air quality standards or increments. The techniques by which these demonstrations are made have changed substantially. The latest approved EPA and National Park Service methodologies need to be employed.

We appreciate your plan to comply with the SO<sub>2</sub> emissions rates equal to the determination made for Farmland. We still require that your proposal be based on an analysis of all the methods available for reducing SO<sub>2</sub> emissions and that more stringent controls be excluded on the basis of cost and other impacts. Therefore we need more details regarding the technologies that were rejected and the rationale for their rejection.

If the value of 3.5 lb/ton of sulfuric acid was a Lowest Achievable Emission Rate (LAER), we could agree that it would not be necessary to conduct further cost analysis. However LAER would be on the order of 1-2 lb/ton so we need additional analysis. We also need a similar analysis for sulfuric acid mist (SAM) emissions. Please send a table containing results of annual SO<sub>2</sub> and SAM tests conducted during the past five years.

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. will be 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,

Handwritten signature of A. A. Linero in cursive, with the date 11/3 written to the right.

A. A. Linero, P.E., Administrator  
Bureau of Air Regulation

AAL/sa

Cc: Bill Thomas, DEP SWD  
Gregg Worley, EPA Region IV  
John Bunyak, NPS



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3. Article Addressed to: Steven G. Susick, PE  
 US Agri-Chem  
 3225 State Rd-630 West  
 Ft. Meade, FL 33841-9799

4a. Article Number: Z 031 392 001

4b. Service Type  
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7. Date of Delivery: 11-11-99 CR

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Street & Number: *US Agri Chem*

Post Office, State, & ZIP Code: *Ft. Meade FL*

Postage: \$ \_\_\_\_\_

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Return Receipt Showing to Whom & Date Delivered: \_\_\_\_\_

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Postmark or Date: *1050051-009-AC 11-4-99*  
*PSD-FI-278*

PS Form 3800 April 1995



**U.S. FISH & WILDLIFE SERVICE  
AIR QUALITY BRANCH**

P.O. BOX 25287, Denver, CO 80225-0287

---

**FACSIMILE COVER SHEET**

---

*Date: February 29, 2000*

*Telephone: (303) 969-2617*

*Fax: (303) 969-2822*

*To: Syed Arif*

*From: Ellen Porter*

*Subject: US Agrichemicals. Our preliminary comments are attached. We will review the project in more detail later.*

*Number of Pages: 3  
(Including this cover sheet)*

---

*Office Location: 7333 West Jefferson Ave, Suite 450, Lakewood, CO 80235*

**Preliminary Review of Prevention of Significant Deterioration  
Permit Application for U.S. Agri-Chemicals Corporation  
Ft. Meade, Florida  
PSD-FL-278**

by

**Air Quality Branch, U. S. Fish and Wildlife Service – Denver  
February 28, 2000**

### **Background**

U.S. Agri-Chemicals (USAC) is proposing to increase production by 20% at two sulfuric acid plants at its Fort Meade facility. The facility is located in Polk County, 140 km southeast of Chassahowitzka Wilderness, a Class I air quality area administered by the U.S. Fish and Wildlife Service. This project will result in PSD-significant increases in emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfuric acid mist (SAM). Emissions (in tons per year – TPY) are summarized below.

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NO <sub>x</sub>	79
SAM	133

### **Best Available Control Technology (BACT) Review**

#### Sulfuric Acid Mist (SAM)

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emissions data provided in USAC's February 1, 2000 letter to the Florida Department of Environmental Protection, USAC should be able to meet a limit of 3.16 lb SO<sub>2</sub>/ton or better.

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Our comments are preliminary and will be followed by a more detailed review of the proposed project.

Contact: Ellen Porter, Air Quality Branch (303) 969-2617.

Syed



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

KA 173-99-02

February 1, 2000

**RECEIVED**

**FEB 02 2000**

**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: Sulfuric Acid Plant Production Increase  
US Agri-Chemicals Corporation  
File PSD-FL-278, 1050051-009-AC

Dear Mr. Linero:

This is in response to your letter requesting additional information on the above referenced project. The issues are addressed in the order presented in your letter.

1. The past actual annual production and the maximum daily production are as follows:

Year	Annual Sulfuric Acid Production (tons).	
	Plant 1	Plant 2
1999	787,393	793,569
1998	792,803	789,623
1997	780,322	785,799
1996	793,853	761,309
1995	774,296	802,232

Maximum daily production of Plant 1 and Plant 2 was 2488 tons and 2426 tons, respectively. The proposed maximum operating rate of 3000 tons per day represents about a 20 percent increase.

- Plants 1 and 2 were built by Monsanto and use Monsanto LP110 and LP120 catalysts. After the modification, each converter will hold approximately 400,000 liters of catalyst.
- The requested ambient air impact analysis is presented in the attached report.

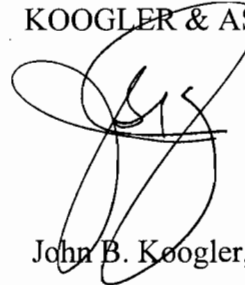
4. The requested Best Available Control Technology analysis is presented in the attached report.
5. The past sulfuric acid mist and sulfur dioxide emissions are as follows:

Year	Emissions (lb/ton acid)			
	Plant 1		Plant 2	
	SAM	SO2	SAM	SO2
1999	0.043	2.95	0.038	3.76
1998	0.049	2.42	0.046	2.47
1997	0.028	2.27	0.035	2.46
1996	0.042	2.03	0.047	2.23
1995	0.024	1.73	0.026	2.38

If you have any questions, please do not hesitate to call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES



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

JBK:par  
Enc.

c: Ron Brunk, USAC

cc: J. Arif, BAR  
S W B  
EPA  
NPS  
C. Holladay, BAR

REPORT IN SUPPORT OF PSD APPLICATION  
FOR  
INCREASE IN SULFURIC ACID PRODUCTION

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## 1.0 BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology (BACT) is required to control air pollutants emitted from newly constructed major sources or from modification to the major emitting facilities if the modification results in significant increase in the emission rate of regulated pollutants.

USAC proposes about a 20 percent increase in the production rate of the two existing double absorption sulfuric acid plants. The proposed maximum production rate for each unit, of 3000 tons per day, was previously permitted under PSD-FL-107. However, the plants had not achieved that level of production. This case-by-case BACT review acknowledges that the proposed project involves a marginal increase in production to achieve a previously permitted federally enforceable operating rate.

The sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM) and nitrogen oxides (NO<sub>x</sub>) emissions increases from the proposed project were determined to represent a significant increase. These pollutants are present in the tail gas from all contact process sulfuric acid plants. In a typical plant with a double absorption system, the sulfur dioxide in the tail gas is less than 4 pounds per ton of acid produced and the acid mist is less than 0.15 pounds per ton of acid produced. The nitrogen oxides that are present in the tail gas are formed in the sulfur burners as a result of the fixation of atmospheric nitrogen. Stack tests indicate nitrogen oxides emissions from Plant 1 and 2 of about 0.07 and 0.08 pound per ton of acid produced, respectively.

### 1.1 EMISSION STANDARDS FOR SULFURIC ACID PLANTS

Federal New Source Performance Standards (NSPS) for sulfuric acid plants became effective on August 17, 1971. These standards, codified in 40 CFR 60, Subpart H, limit sulfur dioxide emissions to no more than 4.0 pounds per ton of 100 percent acid produced. Sulfuric acid mist emissions are limited to no more than 0.15 pounds per ton of 100 percent acid produced. Additionally, opacity of the emissions from new or modified sulfuric acid plants is limited to less than 10 percent. There are no emission standards under NSPS for nitrogen oxides from sulfuric acid plants.

EPA's most recent review of the New Source Performance Standards for sulfuric acid plants in 1985 (EPA-450/3-85-012), concluded that because of variations in sulfur dioxide emissions as a function of catalyst age, the level of SO<sub>2</sub> emissions as specified in the current NSPS should not be changed.

For sulfuric acid mist, EPA concluded that a more stringent acid mist standard would not be practical because of the need to provide a margin of safety due to in-plant operating fluctuations, which introduce variable quantities of moisture into the sulfuric acid production line.

There has been no change in EPA philosophy related to sulfuric acid plants since the 1985 review. A review of BACT/LAER determinations published in the EPA Clearinghouse indicates that no new control alternatives have been applied to the double absorption sulfuric acid plants for reduction in sulfur dioxide emission nor for reduction of sulfuric acid mist emissions. No control technologies for nitrogen oxides are discussed in either the NSPS review or in BACT/LAER determinations as there is typically no control of NO<sub>x</sub> from the double absorption sulfuric acid plants.

## 1.2 CONTROL TECHNOLOGIES

Sulfur dioxide and sulfuric acid mist emissions from sulfuric acid plants can be controlled by various processes. The process of choice for sulfur dioxide control has been double absorption and the process of choice for controlling sulfuric acid mist emission has been one of the various types of fiber mist eliminators. These processes have been selected based on cost, product recovery, the formation of no undesirable by-products and the fact that neither introduces operating processes that are foreign to plant personnel.

In EPA's review of NSPS for sulfuric acid plants in March 1985 (EPA-450/3-85-012), 46 sulfuric acid plants built between 1971 and 1985 were reviewed. Of these 46 plants, 40 used the double absorption process for sulfur dioxide control with the remaining six using some type of acid gas scrubbing. All 46 plants used the high efficiency mist eliminators for acid mist control. The control of nitrogen oxides in sulfuric acid plants has not been addressed to date because the low concentration of nitrogen oxides in the tail gases of sulfuric acid plants (10-20 parts per million) does not lend itself to cost effective controls.

Also in the 1985 EPA review, several potential control technologies that had been used to control sulfur dioxide and sulfuric acid mist emissions from sulfuric acid plants were addressed. The alternatives included the double absorption process, ammonia scrubbing, sodium sulfite-bisulfite scrubbing, and molecular sieves for sulfur dioxide control and filter type mist eliminators and electrostatic precipitators for sulfuric acid mist control. A review of the EPA BACT/LAER Clearinghouse information indicated that no other control alternatives for sulfur dioxide and sulfuric acid mist have been as consistently considered for sulfuric acid plants prior to or since the 1985 NSPS review as the double absorption process and fiber mist eliminators, respectively. The limits typically selected with a margin of safety for sulfur dioxide and sulfuric acid mist have been 4.0 and 0.15 pounds per ton, respectively. More recent determinations in Florida have limited sulfur dioxide emissions to 3.5 pounds per ton of acid; and, limited sulfuric acid mist emissions to 0.12 pound per ton acid. No control alternatives were addressed for nitrogen oxides control in either the 1985 EPA NSPS review or in the BACT/LAER Clearinghouse.

### 1.2.1 Sulfur Dioxide Control

The control alternatives for sulfur dioxide have been summarized based upon information compiled by EPA in the 1985 NSPS review for sulfuric acid plants, information recently submitted to FDEP by companies with similar sulfuric acid plants during review of production increase requests (refer to PSD-FL-225, 229, 235, 238, and 250).

#### 1.2.1.1 Double Absorption Process

The first major improvement in sulfuric acid plant technology was the introduction of the double absorption process. The second absorber tower on double absorption sulfuric acid plants is essentially a sulfur dioxide control device. The second tower adds about 20 percent to the cost of a plant and it increases operating costs by reducing the amount of high pressure steam that can be recovered and by increasing the pressure drop across the plant. The second absorption stage, in reducing sulfur dioxide emissions, results in the recovery of about 25-26 pounds of sulfur dioxide per ton of acid produced. This sulfur dioxide is converted to sulfuric acid, resulting in about a two percent increase in acid production. Based on this information, it becomes apparent

that the second absorption stage is added for sulfur dioxide control, not for increased acid production.

As a sulfur dioxide control system, the double absorption process has become the system of choice within the sulfuric acid industry since the promulgation of NSPS in 1971. Several single absorption plants have also been converted to double absorption plants in order to comply with sulfur dioxide emission standards.

The double absorption process offers the following advantages over other SO<sub>2</sub> control technologies:

- a. 99.7 percent of the sulfur is converted to sulfuric acid compared with about 97.7 percent conversion with a single absorption plant;
- b. there are no by-products produced;
- c. there are no new operating processes that plant personnel must become familiar with;
- d. the process permits higher inlet sulfur dioxide concentrations resulting in a reduction in equipment size;
- e. there is no reduction in overall plant operating time or efficiency; and
- f. there is no increase in manpower requirements.

A double absorption plant typically operates at a sulfur dioxide emission rate in the range of 2-4 pounds per ton of acid, in compliance with the NSPS. EPA set the standard at 4.0 pounds per ton of acid to account for fluctuations that invariably occur in operating plants.

Since the adoption of the NSPS, there have been some design and operating changes in sulfur burning sulfuric acid plants as well as changes and improvements in catalyst technology. At the time the NSPS were adopted, the SO<sub>2</sub> concentration in the gas stream leaving the sulfur burner was in the range of 9.0-9.5 percent. In recent years, changes in plant design have increased the sulfur dioxide concentration at the burner exit to 11.5-11.7 percent.

It should be noted that sulfuric acid plants operating in conjunction with smelters or spent acid regeneration plants still operate with a feed gas sulfur dioxide concentration in the range of 7-9 percent. Because of this difference in the concentration of sulfur dioxide in the feed gas, it is not possible to compare the performance of a sulfur burning sulfuric acid plant as operated in Florida with a sulfuric acid plant operating at a smelter or a spent acid recovery plant.

The second improvement in sulfuric acid plant technology has been in catalyst performance. Changes have occurred in the composition of the vanadium/sodium/potassium catalyst and in the physical shape of the catalyst; from a pellet (4 and 6 millimeters in diameter by 8-15 millimeters long) to a ring-type structure. The change in the composition of the catalyst plus the change in the catalyst shape has resulted in a catalyst with a higher activity and a much lower pressure drop.

Another factor that determines the sulfur dioxide emission rate from a double absorption sulfur burning sulfuric acid plant is the specific design of the plant. For maximum sulfuric acid production the blower of the sulfuric acid plant will be set to operate at the maximum sustainable rate. The sulfur feed rate to the sulfur burner will then be increased until either the sulfuric acid production rate, or the sulfur dioxide emission rate, permit limit is reached.

### 1.2.1.2 Addition of a Catalyst Bed to a Double Absorption Sulfuric Acid Plant

Most double absorption sulfur burning sulfuric acid plants consist of a sulfur burner, three catalyst beds to convert SO<sub>2</sub> to SO<sub>3</sub> an intermediate absorption tower, a fourth catalyst bed, a final absorption tower, acid mist control and a heat recovery system. These plants are referred to as 3 by 1 (three catalyst beds followed by one catalyst bed) plants. The predominance of this type of plant is dictated by the fact that this arrangement has been determined to be the most cost-effective design. The conversion of sulfur dioxide produced in the sulfur burner to sulfur trioxide in the catalyst bed and the subsequent absorption of the sulfur trioxide determines the conversion efficiency of a plant (conversion of sulfur to sulfuric acid). As the only release of unconverted sulfur is sulfur dioxide (and a small amount of acid mist) in the stack gas, the conversion efficiency also determines the emissions from the plant.

The conversion from sulfur dioxide to sulfur trioxide is a complex reaction. The equilibrium concentrations of this reaction are determined in part by temperature, the oxygen:sulfur dioxide ratio and the sulfur trioxide concentration. The approach to this equilibrium is a function of temperature, reaction time and the activity of the catalyst. Lower temperatures promote a higher conversion of sulfur dioxide to sulfur trioxide; however, lower temperatures reduce the reaction rate. Increasing the contact time to compensate for a reduced reaction rate at lower temperatures requires more catalyst (greater contact time). The overall conversion process is a complex balance between these and possibly other factors in a temperature range between approximately 770°F and 1150°F and in a time period of approximately 1.5 seconds. The lower temperature limit is determined by the activation temperature of the catalyst. Conventional catalysts have a minimum activation temperature of approximately 770°F (a practical operating minimum of 790°F). The upper temperature limit of the catalyst is about 1150°F. Approximately 90-94 percent of the sulfur dioxide is converted to sulfur trioxide in the first three catalyst beds. The gas stream then passes through an intermediate absorption tower where the sulfur trioxide is absorbed resulting in a shift in the equilibrium curve favoring further conversion of sulfur dioxide to sulfur trioxide. The additional conversion in the fourth catalyst bed raises the final overall conversion to 99.7 percent.

The addition of one or more catalyst beds following the final bed (without the addition of a third absorption tower) will theoretically result in a fractional increase in conversion efficiency. The increase is limited by the slope of the equilibrium curve as 100 percent conversion is approached and by the fact that the temperature required to reach the higher conversion approaches the lower activation limits of the catalyst.

In practice, however, it has been observed that there is little measurable improvement in conversion between a 3 by 1 plant and a 3 by 2 plant.

### 1.2.1.3 Ammonia Scrubbing

Five sulfuric acid plants constructed between 1971 and 1985 used ammonia scrubbing for sulfur dioxide control. None of these plants were double absorption plants. The process can be effective for reducing sulfur dioxide emissions to below 4.0 pounds per ton and also for controlling sulfuric acid mist emissions. The major disadvantages of ammonia scrubbing are:

- a. a waste by-product is produced;

- b. the scrubbing system is a high maintenance item and requires additional manpower for operation;
- c. no sulfuric acid production increase benefits are achieved with the scrubbing system; and,
- d. the environmental liabilities of introducing a potential Hazardous Air Pollutant release point at another location in the plant.

Ammonia scrubbing uses anhydrous ammonia and water in a scrubbing system to convert sulfur dioxide to ammonium sulfite/bisulfite and eventually to ammonium sulfate. The ammonium sulfate can be crystallized and sold as a market commodity, if possible, or disposed of as waste. Furthermore, similar sulfur dioxide emissions levels can be achieved by addition of more catalyst in the converters, without the above disadvantages and without the associated capital, operating and maintenance costs. Therefore, ammonia scrubbing is rejected for the proposed project.

#### 1.2.1.4 Other Scrubbing Technologies

Between 1971 and 1985, two sulfuric acid plants were constructed employing sodium sulfite-bisulfite scrubbing to control sulfur dioxide emissions. One of the plants was subsequently converted to ammonia scrubbing and the second plant has never been used. As a result, sodium sulfite-bisulfite scrubbing is not considered a demonstrated sulfur dioxide control alternative.

Other scrubbing liquors that have a potential for reducing sulfur dioxide emissions include caustic, sodium carbonate, calcium oxide and hydrogen peroxide. Without going through a detailed cost analysis to evaluate these scrubbing technologies, it can be stated that each requires additional capital investment and result in many of the direct and indirect annual costs associated with ammonia scrubbing. Because of higher chemical costs and/or waste disposal costs, these other technologies are expected to be even more costly than ammonia scrubbing. For this reason, these technologies are also rejected for the proposed project.

#### 1.2.1.5 Molecular Sieves

A molecular sieve was installed at one sulfuric acid plant in Florida for sulfur dioxide control. The system was effective for controlling sulfur dioxide; however, extensive operating problems were experienced as the molecular sieve also absorbed nitrogen oxides. The regeneration of sieves resulted in the formation of nitric acid within the sulfuric acid plant. The nitric acid/sulfuric acid mixture resulted in severe corrosion problems that caused the molecular sieve system to be abandoned. As a result, molecular sieves are not considered a viable alternative for sulfur dioxide control in sulfuric acid plants.

#### 1.2.1.6 Catalyst Use

Some changes in catalyst composition and shape have occurred since the NSPS were adopted. The first major change was a change in catalyst shape. The catalyst went from pellets that were 4.0 millimeters and 6.0 millimeters in diameter by 8-15 millimeters long to a ring-type catalyst. The major effect of this shape change was to reduce the pressure drop through the sulfuric plants both initially and over time. The results of this improvement were to extend the time between plant turnarounds from approximately nine months to 18 months or more and to reduce blower operating costs.

A change in catalyst composition, beyond changes in the vanadium content of the catalyst, has been the reintroduction of the cesium-promoted catalyst. The cesium catalyst is a 6-8 percent vanadium catalyst with a portion of the potassium promoter replaced by cesium. The introduction of cesium reduces the activation temperature of the catalyst by approximately 20°F (from about 770°F to 750°F). At temperatures above approximately 770°F, the performance of the cesium catalyst and the conventional catalyst are about the same.

The advantage of the cesium catalyst is that it allows the startup of a sulfuric acid plant at a lower entrance gas temperature. This is a distinct advantage for sulfuric acid plants operating at smelters and spent acid recovery plants where there are frequent plant startups and shutdowns. In sulfuric acid plants that are operating at a steady-state, the potential advantage of using a cesium catalyst is that the temperature (normally of the last catalyst bed) can be reduced about 20°F. The disadvantage of the cesium-promoted catalyst is that it is about three times more expensive than conventional catalyst. Furthermore, recent FDEP determinations based on available data indicate that the addition of more conventional catalyst, in plants capable of accommodating such increase, is expected to achieve the same level of sulfur dioxide reduction as cesium-promoted catalyst. USAC proposes to add about 84,600 liters of conventional catalyst to each plant, at a total cost of almost \$400,000. This will allow the 20 percent production increase and maintain the sulfur dioxide emissions in compliance with a more stringent BACT limit of 3.5 pounds per ton of acid produced.

#### 1.2.1.7 Centaur Process

This technology, licensed by Calgon Carbon and Monsanto Enviro-Chem, uses low temperature wet carbon in place of the conventional fourth pass and second absorption tower. While this process has been marketed for small plants (1000 tons per day), the process has neither been optimized, nor been recommended for larger plants.

### 1.2.2 Sulfuric Acid Mist Control

Control alternatives that were reviewed by EPA in the 1985 New Source Performance Standards review are summarized in the following sections.

#### 1.2.2.1 Fiber Mist Eliminators

The 46 new sulfuric acid plants constructed between 1971 and 1985, all used the fiber-type mist eliminators for sulfuric acid mist control. Operations demonstrated that these types of mist eliminators can control sulfuric acid mist emissions to less than 0.15 pounds per ton of sulfuric acid.

The mist eliminators are the choice of control for sulfuric acid mist within the sulfuric acid industry because they require very little operation and maintenance attention and because of the small space requirement associated with these devices. The disadvantage of this type of mist eliminator is that the pressure drop across the elements varies from five to 15 inches of water; resulting in an increase in operating utility costs. USAC currently utilizes the high efficiency mist eliminators, resulting in sulfuric acid mist emissions that are consistently below NSPS.

### 1.2.2.2 Electrostatic Precipitators

Electrostatic precipitators (ESPs) have the potential for controlling sulfuric acid mist emissions from sulfuric acid plants; however, there is no demonstrated application of ESPs. The disadvantages associated with ESPs and hence, the reason they have not been used, include the initial cost, size requirements, operating and maintenance requirements and the potential for corrosion.

### 1.2.3 Nitrogen Oxides Control

The combustion of sulfur in the acid plant is a relatively low temperature process at oxygen levels that are, out of necessity, relatively high. The gas temperature exiting a sulfur furnace is in the range of 2000°F with an oxygen concentration in the range of 9.2 percent. If the oxygen concentration is decreased (and the sulfur dioxide concentration correspondingly increased), the catalyst in sulfuric acid plants becomes ineffective and sulfur dioxide to sulfur trioxide conversion efficiency drops off markedly. The temperature of the exit gas is strictly a function of the heat of combustion of sulfur at the air flow rate necessary to provide approximately 9.2 percent oxygen and 11.7 percent sulfur dioxide in the furnace exit gas.

Compared to a fossil fuel fired combustion source, the temperature of a sulfur furnace is generally lower and the oxygen content of the combustion gas is generally higher. As a result of the relatively low combustion temperature, the nitrogen oxides concentration in the gas stream leaving the sulfur furnace is inherently quite low; in the range of 20 parts per million (v/v). This compares with NO<sub>x</sub> concentrations of several hundred parts per million in stack gases from typical fossil fuel combustion sources. As a result, there has historically not been any emphasis placed on controlling NO<sub>x</sub> emissions from the sulfuric acid plants. For purposes of this analysis, control technologies for NO<sub>x</sub> will be briefly reviewed as they might apply to sulfur burning sulfuric acid plants.

Flue gas recirculation and low-NO<sub>x</sub> burners are not applicable. Flue gas recirculation would not be practical as reducing oxygen levels below 9.2 percent will be counterproductive as previously discussed. The low-NO<sub>x</sub> burner is not applicable for the reason that combustion temperatures are already relatively low and further refinements to the combustion process will not be productive in further reducing the NO<sub>x</sub> concentration in the furnace exit gas. Furthermore, low-NO<sub>x</sub> burners for sulfur furnaces do not exist.

Add-on control devices include selective catalytic and non-catalytic NO<sub>x</sub> reduction. Both involve the introduction of ammonia to the stack gas. If introduced, the ammonia would first react with any sulfuric acid mist that is present, producing an ammonium sulfite/bisulfite/sulfate aerosol. These aerosols will plug the mist eliminator normally used in sulfuric acid plants if the NO<sub>x</sub> control system is installed prior to the mist eliminator. If installed after the mist eliminator, the aerosols will be extremely difficult to remove from the gas stream and will result in a very visible plume from the sulfuric acid plant. Therefore, add-on NO<sub>x</sub> control alternatives are rejected for the proposed project.



### 1.3 BACT CONCLUSION

All recent BACT determinations by FDEP for sulfur burning double absorption sulfuric acid plants have concluded that the double absorption process for sulfur dioxide control and the fiber mist eliminators for sulfuric acid mist control represent BACT. No control has been imposed for NOx emissions. These determinations were based on case-by-case analyses taking into account environmental, energy and economic impacts, the degree of emission reduction and the demonstrated availability of the control technology.

It should be kept in mind that USAC is requesting only about a 20 percent increase in production rate in order to achieve a production rate already permitted by FDEP under PSD-FL-107. Further, the emissions data indicate that the existing technology is capable of meeting the sulfur dioxide and sulfuric acid mist emissions recently determined by FDEP to be BACT for other similar sources.

Therefore, for sulfur dioxide emissions control, USAC proposes the use of the existing double absorption system. Additional conventional catalyst will be utilized to meet a BACT limit of 3.5 pounds sulfur dioxide per ton of acid. This reflects the most stringent limit imposed on an existing double absorption plant.

For sulfuric acid mist emissions control, USAC proposes the use of the existing high efficiency mist eliminators. The existing equipment will meet a BACT limit of 0.12 pound acid mist per ton of acid. This reflects the most stringent limit imposed on an existing double absorption plant.

For nitrogen oxide emissions, no add on controls are proposed. The resulting emissions level of 0.12 pound nitrogen oxides per ton of acid corresponds to the limit imposed on other double absorption plants.

## 2.0 AIR QUALITY REVIEW

The air quality review required of a PSD construction permit application potentially requires both air quality modeling and air quality monitoring. Air quality monitoring is required when the impact of air pollutant emission increases associated with a proposed project exceed the de minimis impact levels, or in cases where an applicant wishes to define existing ambient air quality by monitoring rather than by air quality modeling. The air quality modeling is required to provide assurance that the air pollutant emissions associated with the project, combined with all other applicable air pollutant emission rates associated with other sources affecting the project area, will not cause or contribute to an exceedance of the applicable ambient air quality standards.

The air quality review for the proposed project was limited to SO<sub>2</sub> and NO<sub>x</sub>. In accordance with FDEP guidance, SAM emission increases are addressed under BACT as there is no corresponding applicable air quality standard.

## 2.1 AIR QUALITY MODELING

### 2.1.1 Significant Impact Analysis

The emission rate used for Significant Impact Analysis (SIA) air quality modeling purposes represents the proposed SO<sub>2</sub> emission rates. Table 2-1 contains modeling input parameters used in the ambient air quality impacts analysis. The average SO<sub>2</sub> emission rate was used in the modeling, corresponding to the averaging periods of the air quality standards.

The air impact analysis was conducted using the Industrial Source Complex-Short Term air quality model, Version 96113 (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 Class I area SIA was conducted using the CALPUFF model with one full year (1990) of meteorological data.

The SIA modeling included discrete receptors at the facility property boundary and additional receptors established by a polar grid extending up to 24 kilometers. Receptors in the vicinity of the source are presented in Figure 2-1.

The results of the SIA modeling, summarized in Table 2-2, demonstrate that the predicted ambient air quality impact of the SO<sub>2</sub> emission increases from the proposed project for the Class I and II areas are greater than significant. The maximum predicted impacts associated with NO<sub>x</sub> emissions from the proposed project are less than significant. Consequently, additional SO<sub>2</sub> modeling was required to determine compliance with the ambient air quality standards and allowable Class I and II area PSD increments.

### 2.1.2 AAQS and PSD Increment Analysis

The Ambient Air Quality Standards (AAQS) Analysis and the PSD Increment (PSD) Analysis were conducted to determine the combined ambient air impact of the proposed project and other nearby SO<sub>2</sub> emitting sources on the Class II area. The significant facilities to be included in the analysis were determined based on the "20 D Rule" using the facility emission inventory most recently utilized by FDEP, with recent updates provided by FDEP staff.

A list of the significant facilities near the proposed project is presented in Table 2-3. The corresponding sources at the significant facilities that contribute to the ambient air concentration and the PSD increment consumption/expansion in the Class II area are presented in Tables 2-4 and 2-5, respectively. Although the ISC model is not recommended for modeling sources beyond 50 kilometers, some of the borderline sources were included to be conservative.

The results of the AAQS and PSD increment analysis indicate that the maximum predicted 3-hour, 24-hour and annual period impacts for the AAQS and Class II area PSD increment are within the standards, as shown in Table 2-6.

The Class I area PSD increment analysis for SO<sub>2</sub> was conducted using CALPUFF, a long range transport model, using 1990 meteorological data. Details of the CALPUFF input data are presented in Appendix B. The SIA using CALPUFF resulted in significant SO<sub>2</sub> impacts for only the 3-hour and 24-hour periods. Therefore additional modeling, using CALPUFF, was conducted for those averaging periods in order to determine the PSD increment consumption by all sources in FDEP's emission inventory.

The modeling was simplified by limiting the analysis to days when the predicted impacts from the proposed project were significant. The results of the modeling, presented in Table 2-7, indicated that the PSD increment contributions from sources in FDEP's Class I area inventory, are negative (increment expanding) on days when the predicted impacts from the proposed project are significant. The CALPUFF modeling results indicated that the Class I area PSD increment would not be exceeded by the proposed project; and, that the proposed project would not significantly contribute to any predicted violations of the PSD increment.

Figure 2-1  
Receptor Locations  
US AGRICHEMICALS CORPORATION

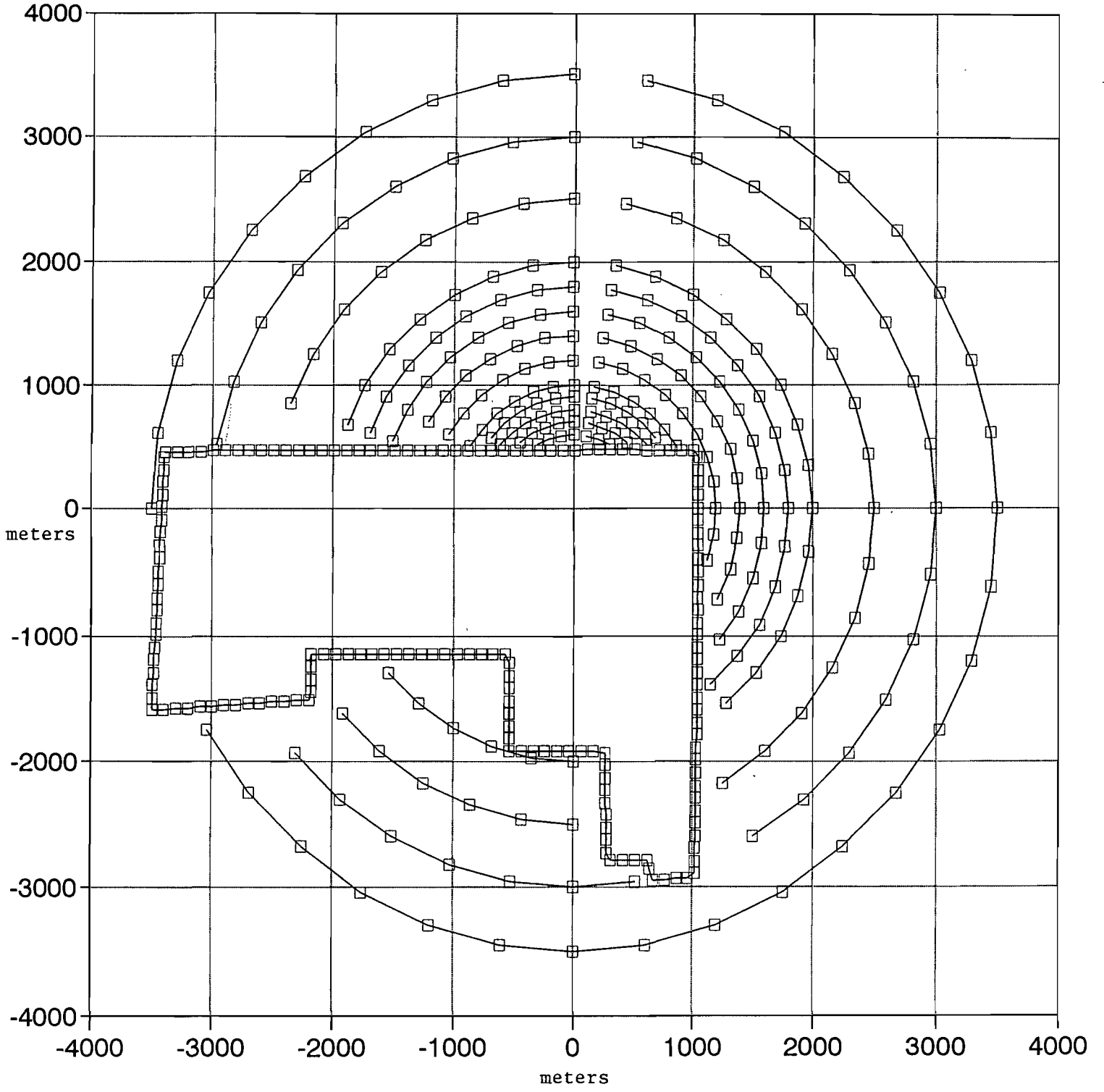


TABLE 2-1

AIR QUALITY MODELING PARAMETERS

U.S. AGRI-CHEMICALS CORP.  
POLK COUNTY, FLORIDA

Emission Unit	<u>Stack</u>		<u>Stack Gas</u>		<u>Emission Rate</u>	
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	SO2 (g/s)	NOX (g/s)
<u>Existing</u>						
UNIT 1	53.05	2.59	10.80	344.11	35.15	1.51
UNIT 2	53.05	2.59	10.80	344.11	35.15	1.51
<u>Proposed</u>						
UNIT 1	53.05	2.59	13.50	344.11	55.13	1.89
UNIT 2	53.05	2.59	13.50	344.11	55.13	1.89

NOTES:

1. Building downwash effects included using EPA approved BPIP program.
2. Existing sulfur dioxide emissions are based on past operations data.
3. Proposed sulfur dioxide emissions are based on requested allowable emission rates.

TABLE 2-2

SUMMARY OF SULFUR DIOXIDE  
SIGNIFICANT IMPACT ANALYSIS

U.S. AGRI-CHEMICALS CORP.  
POLK COUNTY, FLORIDA

MET. DATA	CLASS I AREA SO2 IMPACTS (1)				CLASS II AREA SO2 IMPACTS (1)			
	ANNUAL		3-HR	24-HR	ANNUAL		3-HR	24-HR
	NOX	SO2	SO2	SO2	NOX	SO2	SO2	SO2
ISC3 RESULTS								
1987	0.0004	0.023	2.36	0.52	0.019	1.78	78.91	18.44
1988	0.0006	0.031	2.69	0.49	0.013	1.14	84.29	18.99
1989	0.0007	0.037	3.40	0.54	0.017	1.82	87.43	23.03
1990	0.0004	0.019	2.27	0.47	0.019	1.80	82.94	20.95
1991	0.0004	0.023	2.04	0.47	0.018	1.59	88.97	21.67
CLASS I AREA CALPUFF RESULTS								
1990	0.0003	0.016	1.47	0.31				
Max.	0.0007	0.037	3.40	0.54	0.019	1.82	88.97	23.03
SIGNIFICANT IMPACT LEVEL								
	(Proposed)				(Final)			
	0.1	0.1	1.0	0.2	1.0	1.0	25.0	5.0

NOTE:

- (1) The impacts represent the highest-high impact in micrograms per cubic meter (ug/m3), resulting from the proposed project.

**Table 2-3  
Sulfur Dioxide Emitting Facilities**

SO2 "20 D" SOURCE INVENTORY US-AGRI CHEMICALS CORP.				Source Location	415.940	3068.930	
SOURCE DESCRIPTION	DESIGNATION	UTM Coordinates (km)		SO2 TPY	Distance (Km)	20-D Emission (TPY)	Significant?
		EAST	NORTH				
ASPHALT PAVERS	BOTH	359.900	3162.400	78	109	2180	NO
ASPHALT PAVERS	BOTH	361.400	3168.400	61	113	2269	NO
ATLANTIC SUGAR	NAAQS	553.300	2945.000	567	185	3700	NO
AUBURNDALE	BOTH	420.800	3103.300	221	35	694	NO
BORDEN	PSD	394.800	3069.600	225	21	423	NO
BREWSTER/IMPERIAL	PSD	404.800	3069.500	670	11	223	YES
CARGILL/GARDINIER MINE	NAAQS	415.300	3063.300	670	6	113	YES
CARGILL/GARDINIER	BOTH	363.400	3082.400	11779	54	1085	YES
CARGILL/SEMINOLE/W.R. GRACE	BOTH	409.770	3086.990	14931	19	382	YES
CF BARTOW	BOTH	408.500	3082.500	29567	15	310	YES
CF PLANT CITY	BOTH	388.000	3116.000	9452	55	1095	YES
CITRUS WORLD	NAAQS	441.000	3087.300	2062	31	621	YES
CLM CHLORIDE METALS	BOTH	361.800	3088.300	731	58	1150	NO
COCA COLA - AUBURNDALE	NAAQS	421.600	3103.700	1393	35	705	YES
CONSOLIDATED MINERALS	NAAQS	393.800	3096.300	943	35	704	YES
COUCH CONST-ODESSA (ASPHALT)	BOTH	340.700	3119.500	252	91	1813	NO
COUCH CONST-ZEPHYRHILLS (ASP)	BOTH	390.300	3129.400	123	66	1314	NO
DOLIME	PSD	404.813	3069.548	355	11	223	YES
DRIS PAVING (ASPHALT)	BOTH	340.600	3119.200	8	91	1811	NO
ER JAHNA	BOTH	386.700	3155.800	29	92	1833	NO
ESTECH/SWIFT	PSD	411.500	3074.200	4856	7	138	YES
EVANS	BOTH	383.300	3135.800	2188	74	1488	YES
FARMLAND	BOTH	410.516	3079.624	8545	12	240	YES
FDOC	BOTH	382.200	3166.100	104	103	2057	NO
FLA MINING & MATERIALS	BOTH	356.200	3169.900	50	117	2346	NO
FLORIDA CRUSHED STONE	BOTH	360.008	3162.398	3423	109	2179	YES
FPC ANCLOTE	NAAQS	324.400	3118.700	116916	104	2084	YES
FPC BARTOW	NAAQS	342.400	3082.600	62685	75	1496	YES
FPC BAYBORO	NAAQS	338.800	3071.300	6881	77	1544	YES
FPC CRYSTAL RIVER	BOTH	334.200	3204.500	133484	158	3166	YES
FPC DEBARY	BOTH	467.500	3197.200	16224	138	2765	YES
FPC HIGGINS	NAAQS	336.500	3098.400	12082	85	1695	YES
FPC INT. CITY	BOTH	446.300	3126.000	8168	65	1293	YES
FPC OSCEOLA	BOTH	446.300	3126.000	16958	65	1293	YES
FPC POLK	BOTH	414.400	3073.910	859	5	104	YES
FPL FT MYERS	NAAQS	422.100	2952.900	26872	116	2324	YES
FPL MANATEE	NAAQS	367.200	3054.100	83410	51	1019	YES
GAINESVILLE REGIONAL UTILITIES	BOTH	365.500	3292.700	197	229	4588	NO
GEN. PORT. CEMENT	PSD	358.000	3090.600	4602	62	1237	YES
GOLD BOND	NAAQS	347.300	3082.700	320	70	1400	NO
GULF COAST LEAD	NAAQS	364.000	3093.500	1711	57	1149	YES
HARDEE	BOTH	404.800	3057.400	9657	16	321	YES
HILLS. CO. RESOURCE RECOVERY	BOTH	368.200	3092.700	744	53	1067	NO
HOSP CORP OF AM	BOTH	333.400	3141.000	6	110	2192	NO
IMC - AGRICO /NICHOLS/CONSERV	BOTH	398.400	3084.200	3495	23	465	YES
IMC-AGRIC/O/NEW WALES	BOTH	396.600	3078.900	11416	22	435	YES
IMC-AGRIC/O/NORALYN	NAAQS	414.700	3080.300	504	11	229	YES
IMC-AGRIC/O/PIERCE	PSD	404.100	3078.950	1646	16	310	YES
IMC-AGRIC/O/SO. PIERCE	BOTH	407.500	3071.300	5114	9	175	YES
KISSIMMEE KANE IS.	BOTH	447.680	3127.920	1023	67	1340	NO
KISSIMMEE UTIL	BOTH	460.100	3129.300	1563	75	1496	YES
LAFARGE CORP.	NAAQS	357.7	3090.6	20293	62	1243	YES
LAKE CO. COGEN. FACILITY PROP	BOTH	434.000	3198.800	175	131	2622	NO
LAKELAND LARSEN	BOTH	409.300	3102.800	4944	35	690	YES
LAKELAND MCINTOSH	BOTH	409.200	3106.200	30563	38	757	YES
MOBIL BIG-4	BOTH	394.850	3069.770	591	21	422	YES
MOBIL NICHOLS	BOTH	398.300	3084.300	971	23	468	YES
MOBILE ELECTROPHOS	PSD	405.600	3079.400	3337	15	294	YES
MULBERRY COGENERATION	BOTH	413.600	3080.600	466	12	238	YES

**Table 2-3  
Sulfur Dioxide Emitting Facilities**

SO2 *20 D* SOURCE INVENTORY US-AGRI CHEMICALS CORP.				Source Location	415.940	3068.930	
SOURCE DESCRIPTION	DESIGNATION	UTM Coordinates (km)		SO2 TPY	Distance (Km)	20-D Emission (TPY)	Significant?
		EAST	NORTH				
MULBERRY PROSPHATES/ROYTE	BOTH	406.753	3085.151	5312	19	373	YES
NEW PORT RICHEY HOSP	BOTH	331.200	3124.500	3	101	2027	NO
NITRAM	NAAQS	363.100	3089.000	108	57	1130	NO
OMAN CONST (ASPHALT)	BOTH	359.800	3164.900	73	111	2224	NO
ORLANDO UTIL STANTON	BOTH	483.500	3150.600	24100	106	2120	YES
OVERSTREET PAV. (ASPHALT)	BOTH	355.900	3143.700	128	96	1918	NO
PANDA KATHLEEN	BOTH	398.700	3101.400	25	37	735	NO
PASCO CO. COGEN. FACILITY PROP	BOTH	385.600	3139.000	175	76	1527	NO
PASCO COUNTY RRF	BOTH	347.100	3139.200	490	98	1967	NO
PINELLAS RRF	BOTH	335.300	3084.400	2165	82	1642	YES
PINEY POINT/ROYSTER	NAAQS	348.700	3057.300	1719	68	1365	YES
REEDY CREEK GENERATORS	BOTH	442.000	3139.000	127	75	1495	NO
REEDY CREEK SERVICES	BOTH	443.000	3144.300	5	80	1602	NO
RIDGE COGENERATION	BOTH	416.700	3100.400	480	31	630	NO
SEBRING UTIL	BOTH	464.300	3035.400	3868	59	1177	YES
SECI HARDEE	BOTH	404.900	3057.400	452	16	319	YES
STAUFFER	PSD	325.600	3116.700	2265	102	2044	YES
SUGAR CANE GROWERS	NAAQS	534.900	2953.300	4936	166	3318	YES
SULFUR TERMINALS	NAAQS	358.000	3090.000	104	62	1233	NO
TAMPA GENERAL HOSP	NAAQS	356.400	3091.000	59	63	1270	NO
TAMPA MCKAY BAY RRF	BOTH	360.000	3091.000	744	60	1203	NO
TECO BIG BEND	BOTH	361.900	3075.000	415986	54	1088	YES
TECO GANNON	NAAQS	360.000	3087.500	127495	59	1179	YES
TECO HOOKERS POINT	NAAQS	358.000	3091.000	13535	62	1240	YES
TECO POLK POWER	BOTH	402.488	3066.914	4031	14	272	YES
THATCHER GLASS	NAAQS	361.800	3088.300	177	58	1150	NO
USS AGRI-CHEM BARTOW	PSD	413.200	3086.300	1580	18	352	YES
USSAC FT MEADE	BOTH	415.940	3068.930	3377	0	0	YES



**Table 2-4**  
**Class II Area Sulfur Dioxide Emitting Facilities**

SO2 FAAQS SOURCE INVENTORY		A A Q S						
US-AGRI CHEMICALS CORP.		Emissions	UTM COORDINATES (km)		Height	Temp.	Velocity	Diameter
SOURCE DESCRIPTION	(g/s)	EAST	NORTH	(m)	(K)	(m/s)	(m)	
CARGILL/GARDINIER MINE ROCK DRYER	17.60	415.300	3063.300	19.20	290.0	7.00	2.90	
CARGILL/GARDINIER DAP (U55)	0.96	363.400	3082.400	40.50	320.0	16.09	2.13	
CARGILL/GARDINIER GTSP (UAA)	1.90	363.400	3082.400	38.40	328.0	11.56	2.44	
CARGILL/GARDINIER SAP #7 (U04)	46.20	363.400	3082.400	45.60	340.0	12.64	2.29	
CARGILL/GARDINIER SAP #8 (U05)	52.50	363.400	3082.400	45.60	339.0	13.93	2.44	
CARGILL/GARDINIER SAP #9 (INCR IN9 OF8/9 U06)	67.20	363.400	3082.400	45.60	350.0	12.66	2.74	
CARGILL/GARDINIER NaSiF MFG (U41)	0.16	363.400	3082.400	12.20	333.1	13.37	2.80	
CARGILL/SEMINOLE/W.R. GRACE DAP 4 - Bartow	0.30	409.770	3086.990	40.20	316.0	26.20	2.10	
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	143.64	409.770	3086.990	60.96	347.0	34.00	1.52	
CF BARTOW DAP 1-3	3.97	408.500	3082.500	36.40	339.0	16.11	2.13	
CF BARTOW DAP 1-3	7.93	408.500	3082.500	36.40	339.0	16.11	2.13	
CF BARTOW H2SO4 5 (2400 TPD)	50.40	408.500	3082.500	63.41	361.0	10.88	2.13	
CF BARTOW H2SO4 6 (2400 TPD)	50.40	408.500	3082.500	63.41	370.0	7.28	2.13	
CF BARTOW H2SO4 7 (2000 TPD)	42.00	408.500	3082.500	67.10	351.0	9.80	2.40	
CF PLANT CITY Zephyrhills (U01)	19.98	388.000	3116.000	7.62	560.8	17.74	1.07	
CF PLANT CITY (U22)	0.12	388.000	3116.000	2.44	373.0	0.33	0.61	
CF PLANT CITY DAP A (U10)	3.00	388.000	3116.000	28.70	326.0	7.90	3.00	
CF PLANT CITY DAP X (U16)	13.20	388.000	3116.000	54.90	325.0	9.80	2.80	
CF PLANT CITY DAP Z (U11)	13.20	388.000	3116.000	54.90	331.0	13.10	2.80	
CF PLANT CITY GTSP X (U12)	13.20	388.000	3116.000	54.90	314.0	7.90	2.80	
CF PLANT CITY H2SO4 A&B (U02&03)	88.20	388.000	3116.000	33.50	316.0	19.50	1.52	
CF PLANT CITY PROPOSED C & D (U07-08)	109.20	388.000	3116.000	60.35	353.0	17.77	2.44	
CF PLANT CITY Y-GTSP (U17)	11.33	388.000	3116.000	54.9	333.1	13.37	2.8	
CF PLANT CITY (U23-24)	0.17	388.000	3116.000	3.7	373.1	1.65	0.09	
CF PLANT CITY (U22)	0.11	388.000	3116.000	2.4	373.1	1.63	0.27	
CITRUS WORLD DRYER 1	11.8	441.000	3087.300	22.90	323.0	10.70	1.00	
CITRUS WORLD DRYER 2	23.74	441.000	3087.300	22.90	325.0	12.20	0.80	
CITRUS WORLD DRYER 3	23.74	441.000	3087.300	24.40	313.0	21.90	0.80	
COCA COLA - AUBURNDALE U01	18.00	421.600	3103.700	28.35	333.2	16.76	1.07	
COCA COLA - AUBURNDALE U03	0.52	421.600	3103.700	30.48	344.8	14.93	0.98	
COCA COLA - AUBURNDALE U08	21.52	421.600	3103.700	12.19	434.8	18.29	1.22	
CONSOLIDATED MINERALS	0.12	393.800	3096.300	6.10	605.2	20.21	0.37	
CONSOLIDATED MINERALS FLUID BED REACTOR	11.57	393.800	3096.300	46.33	299.7	12.14	1.77	
CONSOLIDATED MINERALS KILNS 3, 4 & 5	15.43	393.800	3096.300	46.33	298.0	13.17	1.77	
EVANS BOILER	28.70	383.300	3135.800	12.20	505.0	11.90	1.00	
EVANS DRYER	34.00	383.300	3135.800	25.90	346.0	17.30	1.00	
EVANS PACKING	0.20	383.300	3135.800	12.30	466.2	9.20	0.40	
FARMLAND	2.33	410.330	3079.655	28.96	605.2	3.58	1.68	
FARMLAND SULFUR SYSTEM (EXISTING)	0.39	410.330	3079.655	12.19	366.3	2.67	0.61	
FARMLAND SULFUR SYSTEM (PROPOSED)	0.16	410.330	3079.655	12.19	366.3	2.67	0.61	
FARMLAND 3 & 4 H2SO4 (2100 TPD)	88.20	410.330	3079.655	30.48	355.0	12.02	2.29	
FARMLAND 5 H2SO4 (2800 TPD)	58.80	410.330	3079.655	45.72	355.0	13.42	2.44	
FARMLAND 6 H2SO4 (2800 TPD)	57.75	410.516	3079.624	45.72	355.0	10.60	2.74	
FPC BARTOW PEAKING 1-4	192.89	342.400	3082.600	13.70	772.0	22.30	5.30	
FPC BARTOW PIPELINE HEATER (U04)	1.80	342.400	3082.600	9.10	541.0	5.20	0.90	
FPC BARTOW UNIT 1 & 2 (U01&02)	896.80	342.400	3082.600	91.40	429.0	36.30	2.70	
FPC BARTOW UNIT 3 (U03)	710.54	342.400	3082.600	91.40	408.0	34.40	3.40	
FPC BAYBORO PEAKING 1-4	197.80	338.800	3071.300	12.20	755.0	6.40	7.00	
FPC HIGGINS OTHER UNITS	25.21	336.500	3098.400	16.76	727.4	113.47	4.60	
FPC HIGGINS UNIT 3	129.90	336.500	3098.400	53.00	423.0	7.30	3.80	
FPC HIGGINS UNITS 1&2	192.20	336.500	3098.400	53.00	429.0	8.20	3.80	
FPC INT. CITY PROP TURBINES/7EA AT 20 DEG F	124.40	446.300	3126.000	15.24	819.8	56.21	4.21	
FPC INT. CITY PROP TURBINES/7FA AT 20 DEG F	110.40	446.300	3126.000	15.24	880.8	32.07	7.04	
FPC OSCEOLA PEAKING 1-6	273.06	446.300	3126.000	7.90	703.7	18.06	4.24	
FPC OSCEOLA PEAKING 7-10	111.88	446.300	3126.000	15.20	834.8	0.05	4.21	
FPC OSCEOLA PEAKING 11-12	102.56	446.300	3126.000	15.2	895.9	0.03	7.04	

**Table 2-4**  
**Class II Area Sulfur Dioxide Emitting Facilities**

SO2 FAAQS SOURCE INVENTORY US-AGRI CHEMICALS CORP.	A A Q S						
	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
		EAST	NORTH				
SOURCE DESCRIPTION							
FPC POLK	24.7	414.400	3073.910	34.40	400.0	40.50	4.10
FPL MANATEE UNIT 1 & 2 (U01&02)	2397.80	367.200	3054.100	152.10	426.0	17.10	8.00
GULF COAST LEAD (U01)	48.45	364.000	3093.500	29.57	344.1	37.59	0.61
GULF COAST LEAD	0.75	364.000	3093.500	8.84	309.1	20.85	0.34
HARDEE	277.60	404.800	3057.400	22.90	389.0	23.90	4.88
IMC - AGRICO /NICHOLS/CONSERVE (2500 TPD @	52.50	398.400	3084.200	45.70	352.0	12.00	2.30
IMC - AGRICO /NICHOLS/CONSERVE DAP DRYER	1.01	398.400	3084.200	24.40	333.0	23.10	1.07
IMC - AGRICO /NICHOLS/CONSERVE DRYER	3.34	398.400	3084.200	24.69	327.4	3.77	2.29
IMC-AGRICO/NEW WALES AFI PLANT	0.20	396.600	3078.900	52.40	322.0	13.10	2.40
IMC-AGRICO/NEW WALES DAP	5.54	396.600	3078.900	36.60	319.1	20.15	1.83
IMC-AGRICO/NEW WALES DAP 1	3.70	396.700	3079.400	40.50	314.0	14.90	2.10
IMC-AGRICO/NEW WALES GTSP	9.20	396.700	3079.400	40.50	316.0	20.40	1.80
IMC-AGRICO/NEW WALES MULTIPHOS	4.80	396.600	3078.900	52.40	314.0	15.80	1.40
IMC-AGRICO/NEW WALES SAP #1,2,3 (3 AT 2900	182.85	396.600	3078.900	61.00	350.0	15.31	2.60
IMC-AGRICO/NEW WALES SAP #4,5 (2 AT 2900 TP	121.90	396.600	3078.900	60.70	350.0	15.31	2.60
IMC-AGRICO/NORALYN	13.30	414.700	3080.300	18.30	341.0	8.50	2.80
IMC-AGRICO/NORALYN	1.20	414.700	3080.300	23.20	394.0	17.10	2.00
IMC-AGRICO/SO. PIERCE DAP PLANT	4.41	407.500	3071.330	38.10	328.0	14.60	3.10
IMC-AGRICO/SO. PIERCE GTSP PLANT	16.60	407.500	3071.300	42.70	305.0	10.40	2.70
IMC-AGRICO/SO. PIERCE H2SO4 (2 @ 2700 TPD)	125.99	407.500	3071.300	44.18	350.0	13.29	2.74
KISSIMMEE UTIL (EXISTING)	32.10	460.100	3129.300	18.30	422.0	38.00	3.66
KISSIMMEE UTIL (U05)	2.09	460.100	3129.300	16.2	477.6	2.87	0.85
KISSIMMEE UTIL (U09&10)	3.69	460.100	3129.300	8.5	505.4	2.43	0.91
KISSIMMEE UTIL (U11-15)	7.05	460.100	3129.300	13.4	505.4	1.92	0.73
LAFARGE CORP.	583.37	357.7	3090.6	44.50	494.8	40.24	2.44
LAKELAND LARSEN	0.20	409.300	3102.800	9.75	699.7	171.38	1.52
LAKELAND LARSEN 4	93.37	409.300	3102.800	50.29	433.0	5.64	3.05
LAKELAND LARSEN 5	0.40	409.300	3102.800	50.29	444.1	6.47	3.05
LAKELAND LARSEN 6	0.35	409.300	3102.800	50.29	444.1	6.47	3.05
LAKELAND LARSEN 7	18.71	409.300	3102.800	50.29	444.1	6.86	3.05
LAKELAND LARSEN CT	29.11	409.300	3102.800	30.48	783.2	28.22	5.79
LAKELAND MCINTOSH	8.32	409.200	3106.200	10.97	791.3	0.39	2.80
LAKELAND MCINTOSH	2.94	409.200	3106.200	6.10	652.4	23.54	0.79
LAKELAND MCINTOSH 1	341.56	409.300	3106.200	45.72	419.1	23.96	2.74
LAKELAND MCINTOSH 2	25.68	409.200	3106.200	47.55	402.4	21.29	3.17
LAKELAND MCINTOSH 3	500.10	409.200	3106.200	76.20	350.0	19.70	4.88
MOBIL BIG-4 BOILER (UAA)	0.60	394.800	3069.770	8.20	505.0	7.57	0.41
MOBIL BIG-4 DRYER (U01)	16.38	394.850	3069.770	30.50	334.0	7.26	1.82
MOBIL NICHOLS DRYER 1	12.73	398.300	3084.300	25.90	342.0	14.10	2.29
MOBIL NICHOLS DRYER 2	12.73	398.300	3084.300	25.90	342.0	14.10	2.29
MOBIL NICHOLS DRYER 4	2.44	398.300	3084.300	25.90	339.0	16.05	2.29
MULBERRY COGENERATION CT	13.40	413.600	3080.600	38.10	377.0	9.31	1.98
MULBERRY PROSPHATES/ROYSTER (1700 TPD @	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
MULBERRY PROSPHATES/ROYSTER DAP	9.30	406.700	3085.200	31.10	316.0	7.90	2.70
MULBERRY PROSPHATES/ROYSTER SAP	25.70	406.753	3085.151	60.96	343.2	10.01	1.81
PINELLAS RRF	62.24	335.300	3084.400	49.10	522.0	27.72	2.74
PINEY POINT/ROYSTER DAP	7.40	348.700	3057.300	61.00	328.0	15.50	3.00
PINEY POINT/ROYSTER SAP	42.02	348.700	3057.300	60.98	350.0	8.08	2.36
SEBRING UTIL 1 & 2	111.20	464.300	3035.400	45.70	446.0	24.10	1.80
SECI HARDEE (50% I)	13.00	404.900	3057.400	27.40	414.0	14.09	5.79
TECO BIG BEND TURBINE 1 (U07)	11.30	361.900	3075.000	10.70	816.0	136.20	1.50
TECO BIG BEND TURBINE 2&3 (U05&06)	79.12	361.900	3075.000	22.86	770.8	18.74	4.27
TECO BIG BEND UNIT 1&2 (U01&02)	3309.00	361.900	3075.000	149.35	404.7	13.74	7.32
TECO BIG BEND UNIT 2 (U02)	3275.32	361.900	3075.000	149.35	404.7	13.02	7.32
TECO BIG BEND UNIT 3 (U03)	3372.92	361.900	3075.000	149.35	410.2	14.47	7.32
TECO BIG BEND UNIT 4 (U04)	654.70	361.900	3075.000	149.40	342.2	19.81	7.32

**Table 2-4  
Class II Area Sulfur Dioxide Emitting Facilities**

SO2 FAAQS SOURCE INVENTORY US-AGRI CHEMICALS CORP.  SOURCE DESCRIPTION	A A Q S						
	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
		EAST	NORTH				
TECO GANNON 1 & 2 (U01&02)	760.86	360.000	3087.500	93.27	420.8	30.85	3.05
TECO GANNON 3 (U03)	483.96	360.000	3087.500	93.27	419.7	38.64	3.23
TECO GANNON 4 (U04)	567.71	360.000	3087.500	93.27	426.9	22.97	3.05
TECO GANNON 5 (U05)	691.28	360.000	3087.500	93.27	423.6	23.18	4.45
TECO GANNON 6 (U06)	1149.41	360.000	3087.500	93.27	433.0	24.74	5.36
TECO GANNON TURBINE (U07)	11.90	360.000	3087.500	10.67	816.3	136.61	1.52
TECO HOOKERS POINT 1 & 2 (U01&02)	82.60	358.000	3091.000	85.30	419.0	6.10	3.40
TECO HOOKERS POINT 3 & 4 (U03&04)	114.00	358.000	3091.000	85.30	434.0	7.90	3.70
TECO HOOKERS POINT 5 (U05)	84.60	358.000	3091.000	85.30	448.0	11.00	3.40
TECO HOOKERS POINT 6 (U06)	107.90	358.000	3091.000	85.30	434.0	22.30	2.90
TECO POLK POWER	49.68	402.450	3067.350	45.72	400.0	16.76	5.79
TECO POLK POWER	8.20	402.328	3067.472	60.70	1033.0	10.70	1.40
TECO POLK POWER	5.42	402.488	3066.954	22.86	812.0	27.43	5.49
TECO POLK POWER	1.27	402.298	3067.297	60.70	1033.0	9.10	1.10
TECO POLK POWER	0.30	402.420	3067.320	6.10	533.0	13.10	0.91
TECO POLK POWER	0.016	402.016	3067.640	22.90	1000.0	20.00	1.20
TECO POLK POWER 4 CC	17.60	402.450	3067.216	45.72	389.0	16.15	4.42
TECO POLK POWER 5 CT	33.40	402.488	3066.914	22.86	785.0	31.39	5.49
USSAC FT MEADE H2SO4 1 & 2 (2200 TPD)	92.48	415.940	3068.930	53.40	355.0	10.00	2.59

**Table 2-5**  
**Class I AND CLASS II Area Sulfur Dioxide Emitting PSD Facilities**

Class 1 SO2 SOURCE INVENTORY US-AGRI CHEMICALS CORP.	PSD - CLASS I						
	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
SOURCE DESCRIPTION		EAST	NORTH				
ASPHALT PAVERS 3 (0700-1800)	2.25	359.900	3162.400	12.20	377.0	10.58	1.37
ASPHALT PAVERS 4 (0700-1800)	1.76	361.400	3168.400	8.50	357.4	10.95	1.08
AUBURNDALE @ 0.5% SULFUR	6.35	420.800	3103.300	48.80	411.0	14.30	5.49
BORDEN DRYER	-6.48	394.800	3069.600	30.48	344.0	14.79	1.82
BORDEN DRYER	-5.29	414.500	3109.000	17.07	333.0	8.26	2.34
BREWSTER/IMPERIAL DRYER	-19.26	404.800	3069.500	27.44	339.0	15.25	2.29
CARGILL/GARDINIER DRYER	-28.89	363.400	3082.400	20.73	310.0	13.12	1.07
CARGILL/GARDINIER SAP #4,5,6	-187.70	363.400	3082.400	22.60	363.0	7.00	1.52
CARGILL/GARDINIER SAP #7	-26.25	363.400	3082.400	45.60	340.0	12.64	2.29
CARGILL/GARDINIER SAP #8	-41.16	363.400	3082.400	45.60	339.0	13.93	2.44
CARGILL/GARDINIER SAP #9	-54.60	363.400	3082.400	45.60	350.0	10.30	2.74
CARGILL/GARDINIER SAP #9 (INCR IN9 OF8/9 U06)	67.20	363.400	3082.400	45.60	350.0	12.66	2.74
CARGILL/SEMINOLE/W.R. GRACE DRYER	-39.66	409.770	3086.990	15.24	327.0	17.32	2.04
CARGILL/SEMINOLE/W.R. GRACE SAP #1 & #2	-216.00	409.770	3086.990	45.72	352.0	16.50	1.37
CARGILL/SEMINOLE/W.R. GRACE SAP #3	-52.50	409.770	3086.990	45.72	311.0	16.70	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	-121.07	409.770	3086.990	60.96	347.0	25.10	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	143.64	409.770	3086.990	60.96	347.0	34.00	1.52
CF BARTOW DAP 1-3	3.97	408.500	3082.500	36.40	339.0	16.11	2.13
CF BARTOW H2SO4 1 (400 TPD)	-60.90	408.500	3082.500	30.49	350.0	12.20	1.37
CF BARTOW H2SO4 2 (500 TPD)	-110.25	408.500	3082.500	30.49	350.0	10.37	1.68
CF BARTOW H2SO4 3 (600 TPD)	-107.10	408.500	3082.500	30.49	364.0	4.27	2.74
CF BARTOW H2SO4 4 (900 TPD)	-174.83	408.500	3082.500	30.49	358.0	7.93	2.13
CF BARTOW H2SO4 5 (2400 TPD)	50.40	408.500	3082.500	63.41	361.0	10.88	2.13
CF BARTOW H2SO4 5 (900 TPD)	-226.80	408.500	3082.500	63.41	358.0	10.67	2.13
CF BARTOW H2SO4 6 (2400 TPD)	50.40	408.500	3082.500	63.41	370.0	7.28	2.13
CF BARTOW H2SO4 6 (900 TPD)	-170.10	408.500	3082.500	63.41	359.0	10.37	2.13
CF BARTOW H2SO4 7 (2000 TPD)	42.00	408.500	3082.500	67.10	351.0	9.80	2.40
CF PLANT CITY BASELINE A & B	-105.00	388.000	3116.000	23.80	316.0	18.80	1.52
CF PLANT CITY BASELINE C & D	-100.80	388.000	3116.000	60.35	353.0	16.40	2.44
CF PLANT CITY H2SO4 A&B (U02&03)	88.20	388.000	3116.000	33.50	316.0	19.50	1.52
CF PLANT CITY PROPOSED C & D (U07-08)	109.20	388.000	3116.000	60.35	353.0	17.77	2.44
CLM CHLORIDE METALS	13.00	361.800	3088.300	30.00	375.0	20.10	0.61
COUCH CONST-ODESSA (ASPHALT)	7.25	340.700	3119.500	9.14	436.0	22.30	1.40
COUCH CONST-ZEPHYRHILLS (ASPHALT)	3.54	390.300	3129.400	6.10	422.0	21.00	1.38
DOLIME BOILER	-4.52	404.813	3069.548	27.43	494.1	7.25	0.61
DOLIME DRYER	-5.68	404.813	3069.548	27.43	333.0	20.67	1.52
DRIS PAVING (ASPHALT)	0.23	340.600	3119.200	12.20	339.0	6.47	3.05
ER JAHNA (LIME DRYER)	0.82	386.700	3155.800	10.67	327.0	8.99	1.83
ESTECH/SWIFT DRYER	-23.94	411.500	3074.200	18.29	339.0	8.47	2.95
ESTECH/SWIFT DRYER	-22.80	411.500	3074.200	18.75	340.0	5.06	2.95
ESTECH/SWIFT SAP (610 TPD & 29 LB/TON)	-92.87	411.500	3074.200	30.79	358.0	3.90	2.13
EVANS PACKING	0.20	383.300	3135.800	12.30	466.2	9.20	0.40
FARMLAND 1,2 H2SO4	-83.98	410.330	3079.655	30.48	311.0	20.18	1.37
FARMLAND 3 & 4 H2SO4 (1620 TPD)	-67.16	410.330	3079.655	30.48	355.0	9.27	2.29
FARMLAND 3 & 4 H2SO4 (2100 TPD)	88.20	410.330	3079.655	30.48	355.0	12.02	2.29
FARMLAND 3 H2SO4	-44.1	410.268	3079.660	30.48	355.0	20.18	1.37
FARMLAND 5 H2SO4 (2400 TPD)	-50.40	410.330	3079.655	45.72	355.0	11.55	2.44
FARMLAND 5 H2SO4 (2800 TPD)	58.80	410.330	3079.655	45.72	355.0	13.42	2.44
FARMLAND 6 H2SO4 (2800 TPD)	57.75	410.516	3079.624	45.72	355.0	10.60	2.74
FDOC BOILER #3	2.99	382.200	3166.100	9.14	478.0	4.57	0.61
FLA MINING & MATERIALS KILN 2	1.45	356.200	3169.900	32.01	394.0	9.90	4.27
FLORIDA CRUSHED STONE KILN 1	98.40	360.008	3162.398	97.60	442.0	23.23	4.88
FPC CRYSTAL RIVER 1	-314.00	334.200	3204.500	152.00	422.0	42.10	4.57
FPC CRYSTAL RIVER 2	-1859.00	334.200	3204.500	153.00	422.0	42.10	4.88
FPC CRYSTAL RIVER 4	1008.80	334.200	3204.500	182.90	398.0	21.00	6.90
FPC CRYSTAL RIVER 5	1008.80	334.200	3204.500	182.90	398.0	21.00	6.90
FPC DEBARY PROP TURBINES AT 20 DEG F	466.40	467.500	3197.200	15.24	819.8	56.21	4.21
FPC INT. CITY PROP TURBINES/7EA AT 20 DEG F	124.40	446.300	3126.000	15.24	819.8	56.21	4.21
FPC INT. CITY PROP TURBINES/7FA AT 20 DEG F	110.40	446.300	3126.000	15.24	880.8	32.07	7.04

**Table 2-5  
Class I AND CLASS II Area Sulfur Dioxide Emitting PSD Facilities**

Class 1 SO2 SOURCE INVENTORY US-AGRI CHEMICALS CORP.  SOURCE DESCRIPTION	PSD - CLASS I						
	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
		EAST	NORTH				
FPC OSCEOLA PEAKING 11-12	102.56	446.300	3126.000	15.2	895.9	0.03	7.04
FPC OSCEOLA PEAKING 7-10	111.88	446.300	3126.000	15.20	834.8	0.05	4.21
FPC POLK	24.7	414.400	3073.910	34.40	400.0	40.50	4.10
GAINESVILLE REGIONAL UTILITIES	5.65	365.500	3292.700	15.80	811.0	46.02	4.30
GEN. PORT. CEMENT KILN 4	-62.99	358.000	3090.600	35.97	505.2	17.61	2.74
GEN. PORT. CEMENT KILN 5	-69.30	358.000	3090.600	45.42	494.1	5.80	3.81
HARDEE	277.60	404.800	3057.400	22.90	389.0	23.90	4.88
HILLS. CO. RESOURCE RECOVERY	21.40	368.200	3092.700	50.00	491.0	18.30	1.80
HOSP CORP OF AM BOILER #1	0.08	333.400	3141.000	10.98	533.0	4.00	0.31
HOSP CORP OF AM BOILER #2	0.08	333.400	3141.000	10.98	533.0	4.00	0.31
IMC - AGRICO /NICHOLS/CONSERVE (2 @ 1300 TPD & 4 LB/TO	-54.60	398.400	3084.200	30.50	308.0	18.90	1.80
IMC - AGRICO /NICHOLS/CONSERVE (2000 TPD @ 4 LB/TON)	-42.00	398.400	3084.200	45.70	352.0	10.30	2.30
IMC - AGRICO /NICHOLS/CONSERVE (2500 TPD @ 4 LB/TON)	52.50	398.400	3084.200	45.70	352.0	12.00	2.30
IMC - AGRICO /NICHOLS/CONSERVE ROCK DRYER	-3.88	398.400	3084.200	24.40	339.0	12.90	1.52
IMC-AGRICO/NEW WALES AFI PLANT	0.20	396.600	3078.900	52.40	322.0	13.10	2.40
IMC-AGRICO/NEW WALES DAP	5.54	396.600	3078.900	36.60	319.1	20.15	1.83
IMC-AGRICO/NEW WALES MULTIPHOS	4.80	396.600	3078.900	52.40	314.0	15.80	1.40
IMC-AGRICO/NEW WALES ROCK DRYER	-34.27	396.600	3078.900	21.00	347.0	18.60	2.13
IMC-AGRICO/NEW WALES SAP #1,2,3 (3 AT 2900 TPD)	182.85	396.600	3078.900	61.00	350.0	15.31	2.60
IMC-AGRICO/NEW WALES SAP #1,2,3 BASELINE	-146.00	396.600	3078.900	61.00	350.0	14.28	2.60
IMC-AGRICO/NEW WALES SAP #4,5 (2 AT 2900 TPD)	121.90	396.600	3078.900	60.70	350.0	15.31	2.60
IMC-AGRICO/PIERCE DRYERS 1,2	-24.32	404.100	3078.950	24.38	339.0	12.94	1.52
IMC-AGRICO/PIERCE DRYERS 3,4	-23.00	404.100	3078.950	24.38	339.0	18.82	2.43
IMC-AGRICO/SO. PIERCE DAP PLANT	4.41	407.500	3071.330	38.10	328.0	14.60	3.10
IMC-AGRICO/SO. PIERCE H2SO4 (2 @ 2700 TPD)	125.99	407.500	3071.300	44.18	350.0	13.29	2.74
IMC-AGRICO/SO. PIERCE H2SO4 (2 @1800 TPD)	-75.60	407.500	3071.300	45.73	350.0	26.40	1.60
KISSIMMEE KANE IS. @ 0.3% SULFUR	29.40	447.680	3127.920	12.20	654.0	29.10	3.05
KISSIMMEE UTIL (EXISTING)	32.10	460.100	3129.300	18.30	422.0	38.00	3.66
LAKE CO. COGEN. FACILITY PROPOSED	5.04	434.000	3198.800	30.48	384.3	17.13	3.35
LAKELAND LARSEN CT	29.11	409.300	3102.800	30.48	783.2	28.22	5.79
LAKELAND MCINTOSH 3	500.10	409.200	3106.200	76.20	350.0	19.70	4.88
MOBIL BIG-4 BOILER (UAA)	0.60	394.800	3069.770	8.20	505.0	7.57	0.41
MOBIL BIG-4 DRYER (U01)	16.38	394.850	3069.770	30.50	334.0	7.26	1.82
MOBIL NICHOLS 75 HP BOILER	-0.87	398.300	3084.300	4.00	522.0	1.80	0.80
MOBIL NICHOLS CALCINER	-13.89	398.300	3084.300	28.40	340.0	19.24	1.09
MOBIL NICHOLS DRYER 4	2.44	398.300	3084.300	25.90	339.0	16.05	2.29
MOBILE ELECTROPHOS 400HP BOILER	-6.53	405.600	3079.400	7.32	464.0	3.23	0.91
MOBILE ELECTROPHOS 600HP BOILER	-10.05	405.600	3079.400	6.10	464.0	7.71	0.91
MOBILE ELECTROPHOS CALICINER	-7.11	405.600	3079.400	25.61	306.0	6.97	2.13
MOBILE ELECTROPHOS COKE DRYER	-3.17	405.600	3079.400	18.29	322.0	22.87	0.70
MOBILE ELECTROPHOS FURNACE (31.25 TPH ROCK @ 0.3% S)	-47.25	405.600	3079.400	29.27	314.0	8.52	2.13
MOBILE ELECTROPHOS ROCK DRYER	-21.81	405.600	3079.400	18.29	350.0	6.79	1.83
MULBERRY COGENERATION CT	13.40	413.600	3080.600	38.10	377.0	9.31	1.98
MULBERRY PROSPHATES/ROYSTER (1003 TPD @ 29 LB/TON)	-152.71	406.700	3085.200	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER (1700 TPD @ 4 LB/TON)	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
MULBERRY PROSPHATES/ROYSTER SAP	25.70	406.753	3085.151	60.96	343.2	10.01	1.81
NEW PORT RICHEY HOSP BLR#1	0.06	331.200	3124.500	10.98	544.0	3.88	0.31
NEW PORT RICHEY HOSP BLR#2	0.03	331.200	3124.500	10.98	544.0	3.88	0.31
OMAN CONST (ASPHALT)	2.09	359.800	3164.900	7.62	347.0	6.29	1.83
OVERSTREET PAV. (ASPHALT)	3.67	355.900	3143.700	9.14	408.0	16.00	1.30
PANDA KATHLEEN	0.73	398.700	3101.400	45.72	372.0	14.57	5.33
PASCO CO. COGEN. FACILITY PROPOSED	5.04	385.600	3139.000	30.48	384.3	17.13	3.35
PASCO COUNTY RRF	14.10	347.100	3139.200	83.82	394.3	15.70	3.05
PINELLAS RRF	62.24	335.300	3084.400	49.10	522.0	27.72	2.74
REEDY CREEK GENERATORS 1 & 2 EPCOT	3.66	442.000	3139.000	5.20	616.5	44.12	0.55
REEDY CREEK SERVICES	0.15	443.000	3144.300	19.80	414.0	15.56	3.41
RIDGE COGENERATION	13.80	416.700	3100.400	99.10	350.0	14.54	3.05
SEC1 HARDEE (50% I)	13.00	404.900	3057.400	27.40	414.0	14.09	5.79
STAUFFER BOILER	-4.86	325.600	3116.700	7.32	464.0	3.23	0.91

**Table 2-5  
Class I AND CLASS II Area Sulfur Dioxide Emitting PSD Facilities**

SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
		EAST	NORTH				
Class 1 SO2 SOURCE INVENTORY US-AGRI CHEMICALS CORP.							
		PSD - CLASS I					
STAUFFER DRYER	-1.50	325.600	3116.700	18.29	322.0	22.87	0.70
STAUFFER FURNACE	-50.93	325.600	3116.700	49.00	335.0	3.60	1.20
STAUFFER KILN	-7.36	325.600	3116.700	25.61	306.0	6.97	2.13
STAUFFER ROASTER	-0.45	325.600	3116.700	25.61	322.0	6.97	0.91
TAMPA MCKAY BAY RRF 1-4 (U01-04)	21.40	360.000	3091.000	48.80	555.0	29.60	1.80
TECO BIG BEND UNIT 3 (24-HR)	-1218.00	361.900	3075.000	149.40	418.0	14.33	7.32
TECO BIG BEND UNIT 4 (U04)	654.70	361.900	3075.000	149.40	342.2	19.81	7.32
TECO BIG BEND UNITS 1&2 (24-HR)	-2436.00	361.900	3075.000	149.40	422.0	28.65	7.32
TECO POLK POWER	0.016	402.016	3067.640	22.90	1000.0	20.00	1.20
TECO POLK POWER	0.30	402.420	3067.320	6.10	533.0	13.10	0.91
TECO POLK POWER	1.27	402.298	3067.297	60.70	1033.0	9.10	1.10
TECO POLK POWER	5.42	402.488	3066.954	22.86	812.0	27.43	5.49
TECO POLK POWER	8.20	402.328	3067.472	60.70	1033.0	10.70	1.40
TECO POLK POWER	49.68	402.450	3067.350	45.72	400.0	16.76	5.79
TECO POLK POWER 4 CC	17.60	402.450	3067.216	45.72	389.0	16.15	4.42
TECO POLK POWER 5 CT	33.40	402.488	3066.914	22.86	785.0	31.39	5.49
USS AGRI-CHEM BARTOW DRYER	-3.41	413.200	3086.300	15.80	332.0	10.01	1.83
USS AGRI-CHEM BARTOW SAP (800 TPD & 10 LB/TON)	-42.00	413.200	3086.300	28.96	305.0	7.50	2.12
USSAC FT MEADE GTSP	-18.27	416.000	3069.000	28.35	330.0	17.60	1.52
USSAC FT MEADE H2SO4 (1500 TPD @ 10 LB/TON)	-78.80	416.210	3068.740	29.00	314.0	6.77	3.02
USSAC FT MEADE H2SO4 1 & 2 (2200 TPD)	92.48	415.940	3068.930	53.40	355.0	10.00	2.59

**Table 2-5**  
**Class I AND CLASS II Area Sulfur Dioxide Emitting PSD Facilities**

SOURCE DESCRIPTION	PSD - CLASS 2						
	Emissions	UTM COORDINATES (km)		Height	Temp.	Velocity	Diameter
	(g/s)	EAST	NORTH	(m)	(K)	(m/s)	(m)
Class 2 SO2 SOURCE INVENTORY							
US-AGRI CHEMICALS CORP.							
BREWSTER/IMPERIAL DRYER	-19.26	404.800	3069.500	27.44	339.0	15.25	2.29
CARGILL/GARDINIER DRYER	-28.89	363.400	3082.400	20.73	310.0	13.12	1.07
CARGILL/GARDINIER SAP #4,5,6	-187.70	363.400	3082.400	22.60	363.0	7.00	1.52
CARGILL/GARDINIER SAP #7	-26.25	363.400	3082.400	45.60	340.0	12.64	2.29
CARGILL/GARDINIER SAP #8	-41.16	363.400	3082.400	45.60	339.0	13.93	2.44
CARGILL/GARDINIER SAP #9	-54.60	363.400	3082.400	45.60	350.0	10.30	2.74
CARGILL/GARDINIER SAP #9 (INCR IN9 OF8/9 U06)	67.20	363.400	3082.400	45.60	350.0	12.66	2.74
CARGILL/SEMINOLE/W.R. GRACE DRYER	-39.66	409.770	3086.990	15.24	327.0	17.32	2.04
CARGILL/SEMINOLE/W.R. GRACE SAP #1 & #2	-216.00	409.770	3086.990	45.72	352.0	16.50	1.37
CARGILL/SEMINOLE/W.R. GRACE SAP #3	-52.50	409.770	3086.990	45.72	311.0	16.70	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	143.64	409.770	3086.990	60.96	347.0	34.00	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	-121.07	409.770	3086.990	60.96	347.0	25.10	1.52
CF BARTOW DAP 1-3	3.97	408.500	3082.500	36.40	339.0	16.11	2.13
CF BARTOW H2SO4 1 (400 TPD)	-60.90	408.500	3082.500	30.49	350.0	12.20	1.37
CF BARTOW H2SO4 2 (500 TPD)	-110.25	408.500	3082.500	30.49	350.0	10.37	1.68
CF BARTOW H2SO4 3 (600 TPD)	-107.10	408.500	3082.500	30.49	364.0	4.27	2.74
CF BARTOW H2SO4 4 (900 TPD)	-174.83	408.500	3082.500	30.49	358.0	7.93	2.13
CF BARTOW H2SO4 5 (2400 TPD)	50.40	408.500	3082.500	63.41	361.0	10.88	2.13
CF BARTOW H2SO4 5 (900 TPD)	-226.80	408.500	3082.500	63.41	358.0	10.67	2.13
CF BARTOW H2SO4 6 (2400 TPD)	50.40	408.500	3082.500	63.41	370.0	7.28	2.13
CF BARTOW H2SO4 6 (900 TPD)	-170.10	408.500	3082.500	63.41	359.0	10.37	2.13
CF BARTOW H2SO4 7 (2000 TPD)	42.00	408.500	3082.500	67.10	351.0	9.80	2.40
CF PLANT CITY BASELINE A & B	-105.00	388.000	3116.000	23.80	316.0	18.80	1.52
CF PLANT CITY BASELINE C & D	-100.80	388.000	3116.000	60.35	353.0	16.40	2.44
CF PLANT CITY H2SO4 A&B (U02&03)	88.20	388.000	3116.000	33.50	316.0	19.50	1.52
CF PLANT CITY PROPOSED C & D (U07-08)	109.20	388.000	3116.000	60.35	353.0	17.77	2.44
DOLIME BOILER	-4.52	404.813	3069.548	27.43	494.1	7.25	0.61
DOLIME DRYER	-5.68	404.813	3069.548	27.43	333.0	20.67	1.52
ESTECH/SWIFT DRYER	-22.80	411.500	3074.200	18.75	340.0	5.06	2.95
ESTECH/SWIFT DRYER	-23.94	411.500	3074.200	18.29	339.0	8.47	2.95
ESTECH/SWIFT SAP (610 TPD & 29 LB/TON)	-92.87	411.500	3074.200	30.79	358.0	3.90	2.13
FARMLAND 1,2 H2SO4	-83.98	410.330	3079.655	30.48	311.0	20.18	1.37
FARMLAND 3 & 4 H2SO4 (1620 TPD)	-67.16	410.330	3079.655	30.48	355.0	9.27	2.29
FARMLAND 3 & 4 H2SO4 (2100 TPD)	88.20	410.330	3079.655	30.48	355.0	12.02	2.29
FARMLAND 5 H2SO4 (2400 TPD)	-50.40	410.330	3079.655	45.72	355.0	11.55	2.44
FARMLAND 5 H2SO4 (2800 TPD)	58.80	410.330	3079.655	45.72	355.0	13.42	2.44
FARMLAND 3 H2SO4	-44.1	410.268	3079.660	30.48	355.0	12.02	2.29
FARMLAND 6 H2SO4 (2800 TPD)	57.75	410.516	3079.624	45.72	355.0	10.60	2.74
FPC INT. CITY PROP TURBINES/7EA AT 20 DEG F	124.40	446.300	3126.000	15.24	819.8	56.21	4.21
FPC INT. CITY PROP TURBINES/7FA AT 20 DEG F	110.40	446.300	3126.000	15.24	880.8	32.07	7.04
FPC OSCEOLA PEAKING 7-10	111.88	446.300	3126.000	15.20	834.8	0.05	4.21
FPC OSCEOLA PEAKING 11-12	102.56	446.300	3126.000	15.2	895.9	0.03	7.04
FPC POLK	24.7	414.400	3073.910	34.40	400.0	40.50	4.10
GEN. PORT. CEMENT KILN 4	-62.99	358.000	3090.600	35.97	505.2	17.61	2.74
GEN. PORT. CEMENT KILN 5	-69.30	358.000	3090.600	45.42	494.1	5.80	3.81
HARDEE	277.60	404.800	3057.400	22.90	389.0	23.90	4.88
IMC - AGRICO /NICHOLS/CONSERVE (2 @ 1300 TPD & 4 LB/TO	-54.60	398.400	3084.200	30.50	308.0	18.90	1.80
IMC - AGRICO /NICHOLS/CONSERVE (2000 TPD @ 4 LB/TON)	-42.00	398.400	3084.200	45.70	352.0	10.30	2.30
IMC - AGRICO /NICHOLS/CONSERVE (2500 TPD @ 4 LB/TON)	52.50	398.400	3084.200	45.70	352.0	12.00	2.30
IMC - AGRICO /NICHOLS/CONSERVE ROCK DRYER	-3.88	398.400	3084.200	24.40	339.0	12.90	1.52
IMC-AGRICCO/NEW WALES AFI PLANT	0.20	396.600	3078.900	52.40	322.0	13.10	2.40
IMC-AGRICCO/NEW WALES DAP	5.54	396.600	3078.900	36.60	319.1	20.15	1.83
IMC-AGRICCO/NEW WALES MULTIPHOS	4.80	396.600	3078.900	52.40	314.0	15.80	1.40
IMC-AGRICCO/NEW WALES ROCK DRYER	-34.27	396.600	3078.900	21.00	347.0	18.60	2.13
IMC-AGRICCO/NEW WALES SAP #1,2,3 (3 AT 2900 TPD)	182.85	396.600	3078.900	61.00	350.0	15.31	2.60
IMC-AGRICCO/NEW WALES SAP #1,2,3 BASELINE	-146.00	396.600	3078.900	61.00	350.0	14.28	2.60
IMC-AGRICCO/NEW WALES SAP #4,5 (2 AT 2900 TPD)	121.90	396.600	3078.900	60.70	350.0	15.31	2.60
IMC-AGRICCO/PIERCE DRYERS 1,2	-24.32	404.100	3078.950	24.38	339.0	12.94	1.52
IMC-AGRICCO/PIERCE DRYERS 3,4	-23.00	404.100	3078.950	24.38	339.0	18.82	2.43

**Table 2-5**  
**Class I AND CLASS II Area Sulfur Dioxide Emitting PSD Facilities**

Class 2 SO2 SOURCE INVENTORY US-AGRI CHEMICALS CORP.	PSD - CLASS 2						
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km)		Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
		EAST	NORTH				
IMC-AGRICO/SO. PIERCE DAP PLANT	4.41	407.500	3071.330	38.10	328.0	14.60	3.10
IMC-AGRICO/SO. PIERCE H2SO4 (2 @ 2700 TPD)	125.99	407.500	3071.300	44.18	350.0	13.29	2.74
IMC-AGRICO/SO. PIERCE H2SO4 (2 @1800 TPD)	-75.60	407.500	3071.300	45.73	350.0	26.40	1.60
LAKELAND LARSEN CT	29.11	409.300	3102.800	30.48	783.2	28.22	5.79
LAKELAND MCINTOSH 3	500.10	409.200	3106.200	76.20	350.0	19.70	4.88
MOBIL BIG-4 BOILER (UAA)	0.60	394.800	3069.770	8.20	505.0	7.57	0.41
MOBIL BIG-4 DRYER (U01)	16.38	394.850	3069.770	30.50	334.0	7.26	1.82
MOBIL NICHOLS 75 HP BOILER	-0.87	398.300	3084.300	4.00	522.0	1.80	0.80
MOBIL NICHOLS CALCINER	-13.89	398.300	3084.300	28.40	340.0	19.24	1.09
MOBIL NICHOLS DRYER 4	2.44	398.300	3084.300	25.90	339.0	16.05	2.29
MOBILE ELECTROPHOS 400HP BOILER	-6.53	405.600	3079.400	7.32	464.0	3.23	0.91
MOBILE ELECTROPHOS 600HP BOILER	-10.05	405.600	3079.400	6.10	464.0	7.71	0.91
MOBILE ELECTROPHOS CALCINER	-7.11	405.600	3079.400	25.61	306.0	6.97	2.13
MOBILE ELECTROPHOS COKE DRYER	-3.17	405.600	3079.400	18.29	322.0	22.87	0.70
MOBILE ELECTROPHOS FURNACE (31.25 TPH ROCK @ 0.3% S)	-47.25	405.600	3079.400	29.27	314.0	8.52	2.13
MOBILE ELECTROPHOS ROCK DRYER	-21.81	405.600	3079.400	18.29	350.0	6.79	1.83
MULBERRY COGENERATION CT	13.40	413.600	3080.600	38.10	377.0	9.31	1.98
MULBERRY PROSPHATES/ROYSTER (1003 TPD @ 29 LB/TON)	-152.71	406.700	3085.200	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER (1700 TPD @ 4 LB/TON)	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
MULBERRY PROSPHATES/ROYSTER SAP	25.70	406.753	3085.151	60.96	343.2	10.01	1.81
SEBRING UTIL 1 & 2	111.20	464.300	3035.400	45.70	446.0	24.10	1.80
SECI HARDEE (50% I)	13.00	404.900	3057.400	27.40	414.0	14.09	5.79
TECO BIG BEND UNIT 3 (24-HR)	-1218.00	361.900	3075.000	149.40	418.0	14.33	7.32
TECO BIG BEND UNIT 4 (U04)	654.70	361.900	3075.000	149.40	342.2	19.81	7.32
TECO BIG BEND UNITS 1&2 (24-HR)	-2436.00	361.900	3075.000	149.40	422.0	28.65	7.32
TECO POLK POWER	49.68	402.450	3067.350	45.72	400.0	16.76	5.79
TECO POLK POWER	8.20	402.328	3067.472	60.70	1033.0	10.70	1.40
TECO POLK POWER	5.42	402.488	3066.954	22.86	812.0	27.43	5.49
TECO POLK POWER	1.27	402.298	3067.297	60.70	1033.0	9.10	1.10
TECO POLK POWER	0.30	402.420	3067.320	6.10	533.0	13.10	0.91
TECO POLK POWER	0.016	402.016	3067.640	22.90	1000.0	20.00	1.20
TECO POLK POWER 4 CC	17.60	402.450	3067.216	45.72	389.0	16.15	4.42
TECO POLK POWER 5 CT	33.40	402.488	3066.914	22.86	785.0	31.39	5.49
USS AGRI-CHEM BARTOW DRYER	-3.41	413.200	3086.300	15.80	332.0	10.01	1.83
USS AGRI-CHEM BARTOW SAP (800 TPD & 10 LB/TON)	-42.00	413.200	3086.300	28.96	305.0	7.50	2.12
USSAC FT MEADE GTSP	-18.27	416.000	3069.000	28.35	330.0	17.60	1.52
USSAC FT MEADE H2SO4 (1500 TPD @ 10 LB/TON)	-78.80	416.210	3068.740	29.00	314.0	6.77	3.02
USSAC FT MEADE H2SO4 1 & 2 (2200 TPD)	92.48	415.940	3068.930	53.40	355.0	10.00	2.59



TABLE 2-6  
SUMMARY OF CLASS II AREA SULFUR DIOXIDE IMPACTS ANALYSIS

U.S. AGRI-CHEMICALS CORP.  
POLK COUNTY, FLORIDA

MET DATA	SULFUR DIOXIDE IMPACT (ug/m <sup>3</sup> ) (1)					
	CLASS II PSD INCREMENT			AAQS		
	ANNUAL	3-HOUR	24-HOUR	ANNUAL	3-HOUR	24-HOUR
1987	0	160.1	29.5	35.6	537.1	182.4
1988	0	227.1	49.6	31.2	523.9	183.9
1989	0	256.3	62.7	30.1	597.6	237.9
1990	0	140.3	30.2	31.5	484.6	199.5
1991	0	205.3	32.6	34.7	583.8	191.8
MAXIMUM + Background. (2)	0 (3)	259.3	62.7	48.6	610.6	250.9
INCREMENT & STD.	20	512	91	60	1300	260
STD. EXCEEDED	NO	NO	NO	NO	NO	NO

NOTE:

- (1) All impacts represents the highest-high impact.
- (2) A background concentration of 13 ug/m<sup>3</sup>, based on a measured annual average from an ambient air monitor near Mulberry, was included in the AAQS. Short-term measurements were not included in order to avoid double counting of impacts of the major sources in the immediate vicinity of the monitor.
- (3) The source inventory for the annual period is increment expanding.

TABLE 2-7  
SUMMARY OF CLASS I AREA SULFUR DIOXIDE IMPACTS ANALYSIS

U.S. AGRI-CHEMICALS CORP.  
POLK COUNTY, FLORIDA

PSD Inventory Impacts (using 1990 meteorological data)

3-Hour Results				
Rank	Day/ Hour	Receptor Number	Inventory Contribution (ug/m <sup>3</sup> )	USAC Contribution (ug/m <sup>3</sup> )
1	D123H7	1	-58.389	1.4684
2	D123H7	12	-63.296	1.2832
3	D123H7	2	-53.207	1.1591
4	D89H4	11	-37.741	1.0926
5	D123H7	4	-44.354	1.0827
6	D89H4	12	-37.438	1.0737
7	D89H4	3	-37.554	1.0451
8	D89H4	2	-37.978	1.0249
9	D123H7	11	-51.427	0.9776
10	D89H4	14	-33.85	0.9668
11	D89H4	5	-36.745	0.9628
12	D89H4	10	-30.939	0.9585
13	D89H4	4	-37.828	0.9546
14	D123H7	3	-43.034	0.9509
15	D89H4	13	-31.005	0.9492
16	D89H4	6	-33.802	0.9176

24 - Hour Results				
Rank	Day	Receptor Number	Inventory Contribution (ug/m <sup>3</sup> )	USAC Contribution (ug/m <sup>3</sup> )
1	21	11	-13.8970	0.3141
2	21	12	-13.6180	0.3101
3	21	3	-13.7940	0.2923
4	21	10	-12.1780	0.2861
5	21	2	-13.6720	0.2852
6	21	14	-12.9460	0.2835
7	21	13	-12.1340	0.2811
8	21	6	-12.6630	0.2754
9	21	5	-13.5100	0.2749
10	21	7	-11.3150	0.2647
11	21	4	-13.5210	0.2630
12	21	1	-12.1580	0.2517
13	21	9	-9.0740	0.2400
14	124	1	-8.6520	0.2360
15	21	8	-8.5490	0.2311
16	333	1	-8.0290	0.1921

### 3.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height in Rule 62-210, FAC, 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.

Based on this policy, the limiting height for sources addressed in this application is 213 feet. The stack associated with the proposed project are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

### 4.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

#### 4.1 IMPACT 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 SO<sub>2</sub> expected in the vicinity of the proposed project are below the ambient air quality standards. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area.

The 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.

#### 4.2 GROWTH RELATED IMPACTS

The proposed modification will require no changes in personnel and minimal other changes to operate the facility. Therefore, no significant growth impacts are expected as a result of the proposed project.

#### 4.3 VISIBILITY IMPACTS

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

Visibility impairment analysis was conducted in accordance with guidance from the NPS, using the results of the CALPUFF model. The results, presented in Table 4-1, indicate that there will be no adverse visibility impacts from the proposed project. Details of the visibility analysis are presented in Appendix A.

#### 4.4 IMPACTS ON AIR QUALITY RELATED VALUES FOR CLASS I AREA

The analysis presented 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 plant.

##### 4.4.1 Impact on Vegetation

The response of vegetation to air pollutants is influenced by the concentration of the pollutant, the duration of the exposure and the frequency of the exposure. The pattern of exposure expected from a single facility is that of a few episodes of relatively high concentrations inter-dispersed with long periods of no exposure or extremely low concentrations. This is the pattern of exposure that would be expected from SO<sub>2</sub>, NO<sub>X</sub> and SAM emissions from the proposed project impacting the Class I area.

Vegetation responds to a dose of an air pollutant with a dose being defined as the product of the concentration of the pollutant and the duration of the exposure. The impact of the SO<sub>2</sub> emissions on Chassahowitzka regional vegetation was assessed by comparing pollutant doses that have been projected with air quality modeling to threshold doses reported in the literature.

SO<sub>2</sub> damage to vegetation can be grouped into two general categories: acute and chronic. Acute damage is caused by short-term exposure to relatively high concentrations of SO<sub>2</sub>. This damage is usually characterized by a yellowing of leaf tips with a sharp, well-defined separation between the damaged and healthy areas of a leaf. In pine trees, injury usually first occurs at the base of the youngest needles (the newest tissue on the plant).

Damaged plants typically show decreased growth and yield. These effects vary widely between species but studies have shown a rough correlation between the loss and yield and the exposure dose. These studies showed approximately a 10 percent yield loss for each 10-fold increase in SO<sub>2</sub> dose beyond 260 micrograms per cubic meter-hour.

Susceptibility to acute damage varies widely with plant species and also with the time of exposure. For example, alfalfa can tolerate 3250 micrograms per cubic meter for one hour (3250 micrograms per cubic meter-hour dose), but only 1850 micrograms per cubic meter for two hours (3700 micrograms per cubic meter-hour dose). Table 4-2 shows the sulfur dioxide concentration/time thresholds for several plant species common to Florida.

The vegetation in the Chassahowitzka area is characterized by flatwoods, brackish-water, marine and halothytic terrestrial species. Predominant tree species are slash pine, laurel oak, sweet gum and palm. Other plants in the area include needlegrass rush, seashore saltgrass, marsh hay and red mangrove.

A study of the tolerance of native Florida species to SO<sub>2</sub> (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak and mangrove exposed to 1300 micrograms per cubic meter of SO<sub>2</sub> for 8-hours were not visibly damaged. This is consistent with the results reported in Table 4-2. Another study (McLaughlin and Lee, 1974) demonstrated that approximately 20 percent of a broad range of plants ranging from sensitive to tolerant were visibly injured when exposed to a SO<sub>2</sub> concentration of 920 micrograms per cubic meter for a 3-hour period.

Acute injury results from a plants inability to quickly convert absorbed SO<sub>2</sub> into the sulfate ion; an essential nutrient to plants. Chronic injury, on the other hand, results from a build-up of sulfate in tissue to the point where it becomes toxic. This sulfate build-up occurs over a relatively long period of time. Symptoms include a reduction in chlorophyll production resulting in decreased photosynthesis and yellow or reddish areas on leaves in a mottled pattern. In pines, sulfate injury is typically shown first at tips of older needles (the oldest tissue in the needle).

Chronic injury can result from SO<sub>2</sub> exposures that are much lower than is required for acute injury. Unfortunately, there is a lack of quantitative experimental data for long term effects of SO<sub>2</sub> exposure. The lowest average concentration for which chronic injury has been shown is 80 micrograms per cubic meter. The Environmental Protection Agency has therefore established an ambient air quality standard of 80 micrograms per cubic meter, annual average. The Florida Department of Environmental Protection adopted a more conservative standard of 60 micrograms per cubic meter, annual average. The SO<sub>2</sub> impacts from the proposed project are expected to be well below the ambient air quality standards.

The maximum expected concentrations of acid mist in the Chassahowitzka area resulting from the increased emissions from the proposed project are less than four percent of the expected sulfur dioxide impacts. Furthermore, it would be expected that by the time acid mist droplets have traveled over 100 kilometers from the plant to the Chassahowitzka area, the droplets may react with particles in the atmosphere to produce a sulfate salt.

Salt deposition concentrations in coastal areas are in the range of 25-300 pounds per acre per year and may be as high as 4000 pounds per acre per year on exposed shorelines. Sulfates can account for 5 - 6 percent of the total salt; resulting in a deposition rate in the range of 1-200 pounds per acre per year.

One study (Mulchi Armbruster, 1975) demonstrated leaf damage in reduced yields in corn and soybeans with a salt deposition of 169 - 339 pounds per acre per year. Another study (Curtis, 1975) reported that broad leaf plants absorbed greater amounts of salt than do pines, probably due to leaf shape. It has been found that deciduous trees begin to exhibit adverse effects to salt exposure concentrations in the range of 100 micrograms per cubic meter (DeVine, 1975). The same study reported no observed injury to plants with long-term exposures to salt spray of 40 micrograms per cubic meter.

The sulfate concentrations resulting from acid mist emissions from the proposed project are well below concentrations that have been reported to produce vegetation damage.

#### 4.4.2 Impact on Soils

The major soil classification in the Chassahowitzka area is Weeki Wachee-Durbin muck. This is an euic, hyderthermic typic sulfhemist that is characterized by high levels of sulfur and organic matter. This soil is flooded daily with the advent of high tide and the pH ranges between 6.1 and 7.8. The upper level of this soil may contain as much as four percent sulfur (USDA, 1991).

Based upon the expected SO<sub>2</sub> and sulfate concentrations in the Chassahowitzka area resulting from the increased emissions from the plant, it is not expected that there will be any adverse impact on the native soils. A study, coordinated by the National Park Service in 1994, supported this position.

#### 4.4.3 Impacts on Wildlife

As the predicted SO<sub>2</sub> levels are below those known to affect vegetation, the proposed project is not expected to have any adverse impact on the wildlife in the Chassahowitzka area.

#### 4.4.4. Visibility Impairment Analysis

Visibility impairment analysis was performed to determine potential impact of the proposed project in the Chassahowitzka area. Results of the CALPUFF model are used in the analysis. A sample calculation is presented in Table 4-1 to show the procedure used for the analysis. The complete analysis is presented in Appendix A. The results of this analysis indicates that the visibility impacts from the proposed project are below the significant levels determined by the NPS.

TABLE 4-1

VISIBILITY IMPACT ANALYSIS RESULTS

Example Calculation

Background	from the 20% Cleanest Days		
SO2 =	0.00329 ppm =	8.62	ug/m <sup>3</sup>
SO4 = SO2 * 1.5 =		12.92	ug/m <sup>3</sup>
(NH4)SO4 = 1.1875 * SO4 =		15.35	ug/m <sup>3</sup>
NO2 =	0.0085 ppm =	16	ug/m <sup>3</sup>
NO3 = 1.348 * NO2 =		21.55	
(NH4)2NO3 = 1.29 * NO3 =		27.80	ug/m <sup>3</sup>
(NH4)SO4 + (NH4)2NO3 =		43.15	ug/m <sup>3</sup>
PM10 =	22.5	22.5	ug/m <sup>3</sup>
Assume 90% RH fRH =		5	
Background extinction =	b back =	238.26	Mm-1

Source		Impact
		ug/m <sup>3</sup>
NO2		0.0007
SO2		0.3140
H2SO4 =		0.01153
SO4 = SO2 * 1.5 =	0.4883	
(NH4)2SO4 = 1.375 * SO4 =		0.6714 ug/m <sup>3</sup>
(SO2+H2SO4)*1.5*1.375 =		2.14 ug/m <sup>3</sup>
NO3 = 1.348 * NO2 =	0.0009	ug/m <sup>3</sup>
(NH4)NO3 = 1.29 * NO3 =		0.0012 ug/m <sup>3</sup>
PM10 =	0	ug/m <sup>3</sup>
Source extinction =	b source	3.363 Mm-1

Change in Deciview

$Ddv = 10 * \ln (b \text{ back} + b \text{ source} / b \text{ back}) =$	0.140 dv
---	----------

Estimated Maximum = 0.27 dv

Estimated Minimum = 0 dv

Estimated Average = 0.01 dv

NOTE: Calculations are based on NPS guidance and are presented in Appendix A.

TABLE 4-2

## SENSITIVITY OF VEGETATION TO SULFUR DIOXIDE

CONCENTRATION - TIME EXPOSURES TO  
SULFUR DIOXIDE RESULTING IN DAMAGE TO  
SEVERAL SPECIES COMMON TO FLORIDASensitive Plants

Poplar	Radish	Cabbage
Lombardy Poplar	Cucumber	Broccoli
Black Willow	Squash	Spinach
Elm	Bean	Wheat
American Elm	Pea	Begonia
Southern pines	Soybean	Zinnia
Red Oak	Cotton	Rubber plant
Black Oak	Eggplant	Bluegrass
Sumac	Celery	Ryegrass

Intermediate Plants

Basswood	Yellow Poplar	Virginia creeper
Red Oxier Dogwood	Sweetgum	Rose
Maples	Locust	Hibiscus
Red Maple	Eastern Cottonwood	Gladiolus
Elm	Saltgrass	Honeysuckle
Pine	Cucumber	Wisteria
White Oak	Tobacco	Chrysanthemum
Pin Oak	Potato	

Tolerant Plants

Juniper	Pine	Gardenia
Ginkgo	Sumac	Citrus
Dogwood	Cantaloupe	Celery
Oak	Corn	
Live Oak	Lily	

(Continued)



TABLE 4-2 (CONTINUED)

Exposure Time, Hours	<u>Concentration Needed to Produce Injury (ug/m<sup>3</sup>)</u>		
	Sensitive	Intermediate	Tolerant
0.5	2,620 - 10,480	9,170 - 31,440	>26,200
1.0	1,310 - 7,860	6,550 - 26,200	>20,960
2.0	655 - 5,240	3,930 - 19,650	>15,720
4.0	262 - 2,620	1,310 - 13,100	>10,480
8.0	131 - 1,310	524 - 6,550	> 5,240

## 5.0 CONCLUSION

It can be concluded from the information in this report that the proposed project described in this report, will not cause or significantly contribute to an exceedance of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

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APPENDIX A - CALCULATIONS

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction	Jday	Class 1 Impact From SO2 Source ug/m ^3	RH Factor	Source (NH4)2SO4 ug/m ^3	Source NO2 ug/m ^3	Source (NH4)NO3 ug/m ^3	Source Extinction Mm-1	Change in Deciview ddv dv
01/07/1990			7	0						
01/08/1990			8	0						
01/09/1990			9	0						
01/10/1990			10	0						
01/11/1990			11	0						
01/12/1990			12	0						
01/13/1990			13	0						
01/14/1990			14	0						
01/15/1990			15	0						
01/16/1990			16	0						
01/17/1990			17	0						
01/18/1990			18	0						
01/19/1990			19	0						
01/20/1990		118.30	20	0.038575	2.62	0.0825	0.00132	0.0022993	0.2221311	0.019
01/21/1990		118.30	21	0.31405	4.7	0.6715	0.01077	0.0187192	3.2441348	0.271
01/22/1990			22	0						
01/23/1990			23	0						
01/24/1990		118.30	24	0.016382	2.46	0.0350	0.00056	0.0009765	0.0885736	0.007
01/25/1990		118.30	25	0.05133	3.3	0.1098	0.00176	0.0030596	0.3722952	0.031
01/26/1990			26	0						
01/27/1990			27	0						
01/28/1990			28	0						
01/29/1990		118.30	29	0.00133	5.5	0.0028	4.6E-05	7.928E-05	0.0160774	0.001
01/30/1990		118.30	30	0.0609	3.5	0.1302	0.00209	0.00363	0.4684762	0.040
01/31/1990	2.22		31	0						
02/01/1990		118.30	32	0.08259	3.06	0.1766	0.00283	0.0049228	0.5554579	0.047
02/02/1990		118.30	33	0.09025	3.06	0.1930	0.00309	0.0053794	0.6069751	0.051
02/03/1990		118.30	34	0.0685	2.62	0.1465	0.00235	0.004083	0.3944519	0.033
02/04/1990		118.30	35	0.07446	3.3	0.1592	0.00255	0.0044383	0.5400565	0.046
02/05/1990			36	0						
02/06/1990			37	0						
02/07/1990		118.30	38	0.008531	1.82	0.0182	0.00029	0.0005085	0.0341251	0.003
02/08/1990		118.30	39	0.016323	2.22	0.0349	0.00056	0.0009729	0.0796444	0.007
02/09/1990		118.30	40	0.042424	2.22	0.0907	0.00145	0.0025287	0.2069983	0.017
02/10/1990		118.30	41	0.036153	4.34	0.0773	0.00124	0.0021549	0.3448548	0.029
02/11/1990			42	0						
02/12/1990			43	0						
02/13/1990			44	0						
02/14/1990		118.30	45	0.004937	1.66	0.0106	0.00017	0.0002943	0.0180125	0.002
02/15/1990		118.30	46	0.14566	1.86	0.3115	0.00499	0.0086822	0.595464	0.050
02/16/1990		118.30	47	0.14482	2.7	0.3097	0.00496	0.0086321	0.8593984	0.072
02/17/1990			48	0						
02/18/1990			49	0						
02/19/1990		118.30	50	0.11309	2.94	0.2418	0.00388	0.0067408	0.7307583	0.062
02/20/1990			51	0						
02/21/1990			52	0						
02/22/1990		118.30	53	0.09719	2.82	0.2078	0.00333	0.0057931	0.6023833	0.051
02/23/1990		118.30	54	0.13841	5.5	0.2960	0.00475	0.00825	1.6731404	0.140
02/24/1990		118.30	55	0.029208	1.54	0.0625	0.001	0.001741	0.0988609	0.008
02/25/1990			56	0						
02/26/1990			57	0						
02/27/1990			58	0						

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction	Jday	Class 1 Impact				Source (NH4)2SO4 ug/m ^3	Source NO2 ug/m ^3	Source (NH4)NO3 ug/m ^3	Source Extinction Mm-1	Change in Deciview ddv
				From SO2 Source ug/m ^3	RH Factor							
02/28/1990	2.22		59	0								
03/01/1990		102.76	60	0								
03/02/1990			61	0								
03/03/1990		102.76	62	0.033206	2.62	0.0710	0.00114	0.0019793	0.1912142	0.019		
03/04/1990			63	0								
03/05/1990			64	0								
03/06/1990		102.76	65	0.020726	2.06	0.0443	0.00071	0.0012354	0.0938393	0.009		
03/07/1990		102.76	66	0.000938	2.06	0.0020	3.2E-05	5.591E-05	0.0042469	0.000		
03/08/1990			67	0								
03/09/1990			68	0								
03/10/1990			69	0								
03/11/1990			70	0								
03/12/1990			71	0								
03/13/1990			72	0								
03/14/1990			73	0								
03/15/1990		102.76	74	0.035775	2.06	0.0765	0.00123	0.0021324	0.1619754	0.016		
03/16/1990		102.76	75	0.17975	2.14	0.3844	0.00616	0.0107142	0.8454441	0.082		
03/17/1990		102.76	76	0.031814	3.3	0.0680	0.00109	0.0018963	0.2307461	0.022		
03/18/1990			77	0								
03/19/1990		102.76	78	1.83E-05	1.74	0.0000	6.3E-07	1.091E-06	6.998E-05	0.000		
03/20/1990		102.76	79	0.003639	1.66	0.0078	0.00012	0.0002169	0.0132768	0.001		
03/21/1990			80	0								
03/22/1990			81	0								
03/23/1990			82	0								
03/24/1990			83	0								
03/25/1990		102.76	84	0								
03/26/1990		102.76	85	0.015762	2.38	0.0337	0.00054	0.0009395	0.08245	0.008		
03/27/1990		102.76	86	0.010511	2.06	0.0225	0.00036	0.0006265	0.0475898	0.005		
03/28/1990		102.76	87	0.002115	1.86	0.0045	7.3E-05	0.0001261	0.0086462	0.001		
03/29/1990		102.76	88	0.013334	2.22	0.0285	0.00046	0.0007948	0.0650602	0.006		
03/30/1990		102.76	89	0.19112	2.3	0.4087	0.00655	0.0113919	0.9661314	0.094		
03/31/1990	1.86	102.76	90	0.16731	2.94	0.3578	0.00574	0.0099727	1.0811139	0.105		
04/01/1990		101.04	91	0.002113	2.7	0.0045	7.2E-05	0.0001259	0.0125391	0.001		
04/02/1990			92	0								
04/03/1990			93	0								
04/04/1990			94	0								
04/05/1990			95	0								
04/06/1990			96	0								
04/07/1990		101.04	97	0								
04/08/1990			98	0								
04/09/1990			99	0								
04/10/1990			100	0								
04/11/1990		101.04	101	0.031206	2.82	0.0667	0.00107	0.0018601	0.1934147	0.019		
04/12/1990			102	0								
04/13/1990			103	0								
04/14/1990			104	0								
04/15/1990		101.04	105	0.000521	2.3	0.0011	1.8E-05	3.105E-05	0.0026337	0.000		
04/16/1990		101.04	106	0.000802	1.86	0.0017	2.7E-05	4.78E-05	0.0032786	0.000		
04/17/1990		101.04	107	0.00542	1.9	0.0116	0.00019	0.0003231	0.0226337	0.002		
04/18/1990		101.04	108	0.09368	1.74	0.2003	0.00321	0.0055839	0.35826	0.035		
04/19/1990		101.04	109	0.013382	2.3	0.0286	0.00046	0.0007976	0.0676474	0.007		
04/20/1990			110	0								

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction	Jday	Class 1 Impact From SO2 Source ug/m ^ 3	RH Factor	Source (NH4)2SO4 ug/m ^ 3	Source NO2 ug/m ^ 3	Source (NH4)NO3 ug/m ^ 3	Source Extinction Mm-1	Change in Deciview ddv dv
04/21/1990			111	0						
04/22/1990			112	0						
04/23/1990			113	0						
04/24/1990			114	0						
04/25/1990			115	0						
04/26/1990			116	0						
04/27/1990		101.04	117	0						
04/28/1990		101.04	118	0.10435	2.82	0.2231	0.00358	0.0062199	0.646761	0.064
04/29/1990		101.04	119	0.002538	2.54	0.0054	8.7E-05	0.0001513	0.0141686	0.001
04/30/1990		101.04	120	0.000723	2.54	0.0015	2.5E-05	4.31E-05	0.0040362	0.000
05/01/1990	1.82	101.04	121	0.009019	2.14	0.0193	0.00031	0.0005376	0.0424204	0.004
05/02/1990		104.49	122	0.000853	1.7	0.0018	2.9E-05	5.084E-05	0.0031871	0.000
05/03/1990		104.49	123	0.003765	1.78	0.0081	0.00013	0.0002244	0.0147295	0.001
05/04/1990		104.49	124	0.236	1.98	0.5046	0.00809	0.014067	1.0270212	0.098
05/05/1990		104.49	125	0.11633	2.3	0.2487	0.00399	0.0069339	0.5880602	0.056
05/06/1990		104.49	126	0.007414	2.3	0.0159	0.00025	0.0004419	0.0374785	0.004
05/07/1990			127	0						
05/08/1990			128	0						
05/09/1990		104.49	129	0.008162	2.06	0.0175	0.00028	0.0004865	0.0369544	0.004
05/10/1990		104.49	130	0.1054	2.62	0.2254	0.00361	0.0062825	0.6069377	0.058
05/11/1990			131	0						
05/12/1990			132	0						
05/13/1990		104.49	133	0.015808	2.06	0.0338	0.00054	0.0009422	0.0715725	0.007
05/14/1990		104.49	134	0.022569	1.66	0.0483	0.00077	0.0013452	0.0823422	0.008
05/15/1990		104.49	135	0.012653	1.78	0.0271	0.00043	0.0007542	0.0495012	0.005
05/16/1990		104.49	136	0.002009	1.82	0.0043	6.9E-05	0.0001197	0.0080363	0.001
05/17/1990		104.49	137	0.18117	1.86	0.3874	0.00621	0.0107988	0.7406303	0.071
05/18/1990		104.49	138	0.010639	1.82	0.0227	0.00036	0.0006341	0.0425573	0.004
05/19/1990		104.49	139	0.000818	1.9	0.0017	2.8E-05	4.876E-05	0.0034159	0.000
05/20/1990		104.49	140	0.004384	1.86	0.0094	0.00015	0.0002613	0.017922	0.002
05/21/1990			141	0						
05/22/1990			142	0						
05/23/1990			143	0						
05/24/1990			144	0						
05/25/1990		104.49	145	0.09938	2.14	0.2125	0.00341	0.0059236	0.4674283	0.045
05/26/1990		104.49	146	0						
05/27/1990		104.49	147	6.14E-05	2.94	0.0001	2.1E-06	3.66E-06	0.0003968	0.000
05/28/1990		104.49	148	0.058117	2.82	0.1243	0.00199	0.0034641	0.360209	0.034
05/29/1990		104.49	149	0.007768	2.3	0.0166	0.00027	0.000463	0.039268	0.004
05/30/1990			150	0						
05/31/1990	1.9		151	0						
06/01/1990		114.85	152	0						
06/02/1990		114.85	153	0.035165	3.06	0.0752	0.00121	0.002096	0.2365017	0.021
06/03/1990		114.85	154	0.045792	2.46	0.0979	0.00157	0.0027295	0.2475865	0.022
06/04/1990		114.85	155	0.011674	2.06	0.0250	0.0004	0.0006958	0.0528554	0.005
06/05/1990		114.85	156	0.000616	1.98	0.0013	2.1E-05	3.672E-05	0.0026807	0.000
06/06/1990			157	0						
06/07/1990		114.85	158	0.001717	2.38	0.0037	5.9E-05	0.0001023	0.0089815	0.001
06/08/1990		114.85	159	0.013252	2.38	0.0283	0.00045	0.0007899	0.0693203	0.006
06/09/1990		114.85	160	0.15345	2.38	0.3281	0.00526	0.0091465	0.8026867	0.070
06/10/1990		114.85	161	0.012499	2.38	0.0267	0.00043	0.000745	0.0653814	0.006
06/11/1990		114.85	162	0.12693	2.46	0.2714	0.00435	0.0075658	0.6862804	0.060

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction Jday	Class 1 Impact From SO2 Source ug/m ^3	RH Factor	Source (NH4)2SO4 ug/m ^3	Source NO2 ug/m ^3	Source (NH4)NO3 ug/m ^3	Source Extinction Mm-1	Change in Deciview ddv dv	
06/12/1990		163	0							
06/13/1990		164	0							
06/14/1990		165	0							
06/15/1990		114.85	166	0				0	0.000	
06/16/1990		114.85	167	0.001994	1.62	0.0043	6.8E-05	0.0001189	0.0070997	0.001
06/17/1990		114.85	168	9.72E-05	1.7	0.0002	3.3E-06	5.794E-06	0.0003632	0.000
06/18/1990			169	0						
06/19/1990			170	0						
06/20/1990			171	0						
06/21/1990			172	0						
06/22/1990			173	0						
06/23/1990			174	0						
06/24/1990			175	0						
06/25/1990			176	0						
06/26/1990			177	0						
06/27/1990		114.85	178	0				0		0.000
06/28/1990		114.85	179	0.000806	1.78	0.0017	2.8E-05	4.804E-05	0.0031532	0.000
06/29/1990		114.85	180	0.05779	2.3	0.1236	0.00198	0.0034446	0.2921344	0.025
06/30/1990		114.85	181	0.08589	2.7	0.1837	0.00294	0.0051195	0.5096929	0.044
07/01/1990	2.14	114.85	182	0.10674	2.38	0.2282	0.00366	0.0063623	0.5583498	0.048
07/02/1990		139.01	183	0.007667	2.94	0.0164	0.00026	0.000457	0.0495422	0.004
07/03/1990			184	0						
07/04/1990		139.01	185	2.52E-05	2.7	0.0001	8.6E-07	1.502E-06	0.0001495	0.000
07/05/1990		139.01	186	-0.00019	2.22	-0.0004	-6.5E-06	-1.13E-05	-0.000927	-0.000
07/06/1990			187	0						
07/07/1990			188	0						
07/08/1990		139.01	189	4.75E-05	2.94	0.0001	1.6E-06	2.831E-06	0.0003069	0.000
07/09/1990		139.01	190	0.025947	2.62	0.0555	0.00089	0.0015466	0.1494138	0.011
07/10/1990		139.01	191	0						
07/11/1990		139.01	192	0.11791	3.06	0.2521	0.00404	0.0070281	0.793002	0.057
07/12/1990		139.01	193	0.11484	2.62	0.2456	0.00394	0.0068451	0.6612972	0.047
07/13/1990		139.01	194	0.0403	2.94	0.0862	0.00138	0.0024021	0.2604082	0.019
07/14/1990			195	0						
07/15/1990			196	0						
07/16/1990		139.01	197	0.10777	2.54	0.2304	0.00369	0.0064237	0.601636	0.043
07/17/1990		139.01	198	0.034022	2.94	0.0727	0.00117	0.0020279	0.2198414	0.016
07/18/1990			199	0						
07/19/1990			200	0						
07/20/1990			201	0						
07/21/1990		139.01	202	0.048511	2.46	0.1037	0.00166	0.0028915	0.2622875	0.019
07/22/1990		139.01	203	0.009795	2.94	0.0209	0.00034	0.0005838	0.0632928	0.005
07/23/1990			204	0						
07/24/1990			205	0						
07/25/1990			206	0						
07/26/1990			207	0						
07/27/1990			208	0						
07/28/1990			209	0						
07/29/1990			210	0						
07/30/1990		139.01	211	8.81E-05	2.38	0.0002	3E-06	5.251E-06	0.0004608	0.000
07/31/1990	2.7	139.01	212	8.18E-05	2.3	0.0002	2.8E-06	4.876E-06	0.0004135	0.000
08/01/1990		128.65	213	0						
08/02/1990			214	0						



USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction	Jday	Class 1 Impact From SO2 Source ug/m ^ 3	RH Factor	Source (NH4)2SO4 ug/m ^ 3	Source NO2 ug/m ^ 3	Source (NH4)NO3 ug/m ^ 3	Source Extinction Mm-1	Change in Deciview ddv dv
08/03/1990			215	0						
08/04/1990			216	0						
08/05/1990			217	0						
08/06/1990		128.65	218	0						
08/07/1990		128.65	219	0						
08/08/1990			220	0						
08/09/1990			221	0						
08/10/1990			222	0						
08/11/1990			223	0						
08/12/1990		128.65	224	0.000294	2.46	0.0006	1E-05	1.752E-05	0.0015896	0.000
08/13/1990		128.65	225	0.10553	2.7	0.2257	0.00362	0.0062902	0.6262416	0.049
08/14/1990		128.65	226	0					0	0.000
08/15/1990		128.65	227	0.17182	2.94	0.3674	0.00589	0.0102415	1.1102564	0.086
08/16/1990		128.65	228	0.05433	2.14	0.1162	0.00186	0.0032384	0.2555381	0.020
08/17/1990		128.65	229	0.040281	2.06	0.0861	0.00138	0.002401	0.1823768	0.014
08/18/1990		128.65	230	0.010607	2.7	0.0227	0.00036	0.0006322	0.0629446	0.005
08/19/1990			231	0						
08/20/1990			232	0						
08/21/1990		128.65	233	0.07818	2.7	0.1672	0.00268	0.00466	0.4639398	0.036
08/22/1990		128.65	234	0.04924	2.38	0.1053	0.00169	0.002935	0.2575712	0.020
08/23/1990			235	0						
08/24/1990			236	0						
08/25/1990			237	0						
08/26/1990		128.65	238	0.08478	2.54	0.1813	0.00291	0.0050534	0.4732922	0.037
08/27/1990		128.65	239	0.14399	2.14	0.3079	0.00494	0.0085826	0.6772489	0.053
08/28/1990		128.65	240	0.007456	2.46	0.0159	0.00026	0.0004444	0.0403128	0.003
08/29/1990			241	0						
08/30/1990			242	0						
08/31/1990	2.46		243	0						
09/01/1990		114.85	244	0.001095	2.46	0.0023	3.8E-05	6.527E-05	0.0059204	0.001
09/02/1990		114.85	245	0.07079	3.06	0.1514	0.00243	0.0042195	0.4760971	0.041
09/03/1990		114.85	246	0.001238	2.22	0.0026	4.2E-05	7.379E-05	0.0060405	0.001
09/04/1990			247	0						
09/05/1990			248	0						
09/06/1990			249	0						
09/07/1990			250	0						
09/08/1990		114.85	251	0.003999	2.14	0.0086	0.00014	0.0002384	0.0188091	0.002
09/09/1990		114.85	252	0.003174	1.86	0.0068	0.00011	0.0001892	0.0129754	0.001
09/10/1990		114.85	253	0.000958	1.98	0.0020	3.3E-05	5.71E-05	0.004169	0.000
09/11/1990		114.85	254	0.11057	2.38	0.2364	0.00379	0.0065906	0.5783843	0.050
09/12/1990			255	0						
09/13/1990			256	0						
09/14/1990			257	0						
09/15/1990		114.85	258	0.006331	2.38	0.0135	0.00022	0.0003774	0.033117	0.003
09/16/1990		114.85	259	0.001691	2.7	0.0036	5.8E-05	0.0001008	0.0100348	0.001
09/17/1990			260	0						
09/18/1990			261	0						
09/19/1990			262	0						
09/20/1990			263	0						
09/21/1990			264	0						
09/22/1990			265	0						
09/23/1990		114.85	266	0						

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction	Jday	Class 1 Impact		Source (NH4)2SO4 ug/m ^3	Source NO2 ug/m ^3	Source (NH4)NO3 ug/m ^3	Source Extinction Mm-1	Change in Deciview ddv dv
				From SO2 Source ug/m ^3	RH Factor					
09/24/1990			267	0						
09/25/1990			268	0						
09/26/1990			269	0						
09/27/1990		114.85	270	0.000789	1.7	0.0017	2.7E-05	4.703E-05	0.002948	0.000
09/28/1990			271	0						
09/29/1990			272	0						
09/30/1990	2.14	114.85	273	0.01368	6.3	0.0293	0.00047	0.0008154	0.1894213	0.016
10/01/1990		121.75	274	0.004083	2.82	0.0087	0.00014	0.0002434	0.0253064	0.002
10/02/1990		121.75	275	0.002813	2.22	0.0060	9.6E-05	0.0001677	0.0137254	0.001
10/03/1990		121.75	276	0						
10/04/1990			277	0						
10/05/1990			278	0						
10/06/1990			279	0						
10/07/1990			280	0						
10/08/1990			281	0						
10/09/1990			282	0						
10/10/1990			283	0						
10/11/1990		121.75	284	0.002339	3.98	0.0050	8E-05	0.0001394	0.0204605	0.002
10/12/1990		121.75	285	0.02168	3.06	0.0464	0.00074	0.0012923	0.1458085	0.012
10/13/1990			286	0						
10/14/1990			287	0						
10/15/1990			288	0						
10/16/1990			289	0						
10/17/1990			290	0						
10/18/1990			291	0						
10/19/1990		121.75	292	0.11852	2.7	0.2534	0.00406	0.0070645	0.7033276	0.058
10/20/1990			293	0						
10/21/1990			294	0						
10/22/1990			295	0						
10/23/1990		121.75	296	0.047774	3.06	0.1022	0.00164	0.0028476	0.3213034	0.026
10/24/1990			297	0						
10/25/1990			298	0						
10/26/1990			299	0						
10/27/1990			300	0						
10/28/1990			301	0						
10/29/1990			302	0						
10/30/1990			303	0						
10/31/1990	2.3		304	0						
11/01/1990		118.30	305	0						
11/02/1990			306	0						
11/03/1990			307	0						
11/04/1990			308	0						
11/05/1990			309	0						
11/06/1990			310	0						
11/07/1990			311	0						
11/08/1990		118.30	312	0						
11/09/1990		118.30	313	0.008069	3.3	0.0173	0.00028	0.000481	0.0585243	0.005
11/10/1990		118.30	314	0.019592	2.14	0.0419	0.00067	0.0011678	0.0921499	0.008
11/11/1990			315	0						
11/12/1990			316	0						
11/13/1990			317	0						
11/14/1990			318	0						

USAC Chemicals Visibility Calculations  
For 1 Year of Data

DATE	Monthly RH Fator	Background Extinction Jday	Class 1 Impact		Source (NH4)2SO4 ug/m^3	Source NO2 ug/m^3	Source (NH4)NO3 ug/m^3	Source Extinction Mm-1	Change in Deciview ddv	
			From SO2 Source ug/m^3	RH Factor						
11/15/1990			319	0						
11/16/1990			320	0						
11/17/1990			321	0						
11/18/1990			322	0						
11/19/1990			323	0						
11/20/1990			324	0						
11/21/1990			325	0						
11/22/1990			326	0						
11/23/1990			327	0						
11/24/1990		118.30	328	0.002065	6.3	0.0044	7.1E-05	0.0001231	0.0285932	0.002
11/25/1990			329	0						
11/26/1990			330	0						
11/27/1990		118.30	331	0.022261	3.5	0.0476	0.00076	0.0013269	0.1712438	0.014
11/28/1990		118.30	332	0.17657	3.7	0.3776	0.00605	0.0105246	1.435889	0.121
11/29/1990		118.30	333	0.19212	2.94	0.4108	0.00659	0.0114515	1.2414297	0.104
11/30/1990	2.22	118.30	334	0.029236	1.36	0.0625	0.001	0.0017426	0.0873895	0.007
12/01/1990		128.65	335	0						
12/02/1990			336	0						
12/03/1990			337	0						
12/04/1990		128.65	338	0.039182	2.7	0.0838	0.00134	0.0023355	0.2325159	0.018
12/05/1990		128.65	339	0						
12/06/1990			340	0						
12/07/1990		128.65	341	0.000162	3.18	0.0003	5.6E-06	9.656E-06	0.0011323	0.000
12/08/1990		128.65	342	0.055434	3.3	0.1185	0.0019	0.0033042	0.4020614	0.031
12/09/1990			343	0						
12/10/1990			344	0						
12/11/1990			345	0						
12/12/1990			346	0						
12/13/1990		128.65	347	0.07616	1.82	0.1629	0.00261	0.0045396	0.3046496	0.024
12/14/1990		128.65	348	0.034671	1.9	0.0741	0.00119	0.0020666	0.1447845	0.011
12/15/1990			349	0						
12/16/1990		128.65	350	0.028521	2.38	0.0610	0.00098	0.0017	0.1491915	0.012
12/17/1990		128.65	351	0.08461	2.62	0.1809	0.0029	0.0050433	0.4872201	0.038
12/18/1990		128.65	352	0.06631	3.7	0.1418	0.00227	0.0039525	0.5392411	0.042
12/19/1990			353	0						
12/20/1990			354	0						
12/21/1990		128.65	355	0.12282	2.54	0.2626	0.00421	0.0073208	0.685654	0.053
12/22/1990		128.65	356	0.003943	2.46	0.0084	0.00014	0.000235	0.0213189	0.002
12/23/1990		128.65	357	0.18267	2.54	0.3906	0.00626	0.0108882	1.0197722	0.079
12/24/1990		128.65	358	0.10002	3.18	0.2139	0.00343	0.0059618	0.6990628	0.054
12/25/1990			359	0						
12/26/1990			360	0						
12/27/1990			361	0						
12/28/1990			362	0						
12/29/1990			363	0						
12/30/1990			364	0						
12/31/1990	2.46			0.31405						

Days with Class 1 Impact = 141

Max 0.27  
Min -0.00  
Avg 0.01

APPENDIX B – AIR MODELING

THESE FIVE DISKS CONTAIN SULFUR DIOXIDE (SO2) AND NITROGEN OXIDES (NOX) MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 AND CALPUFF MODELING OF:

SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS  
INCREMENT ANALYSIS FOR CLASS II AND CLASS I AREA, (CHASSAHOWITZKA NWR)  
BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

DISK 1 - ISCST3 FILES

C2ASISO2	EXE	55,243	02-01-00	SO2 CLASS 2 AREA SIA ANALYSIS
C2ASINX	EXE	98,243	02-01-00	NOX CLASS 2 AREA SIA ANALYSIS
C2-INV	EXE	400,893	02-01-00	SO2 CLASS 2 INCREMENT ANALYSIS
AQS-INV	EXE	489,557	02-01-00	SO2 FAAQS STANDARD ANALYSIS
BPIP	EXE	19,951	02-01-00	BUILDING DOWNWASH CALCULATIONS

DISK 2 - CALPUFF SIA FOR CHASSAHOWITZKA NWR CLASS I AREA FILES

SIA-PUFF	EXE	96,285	02-01-00	CALPUFF SO2 INPUT & OUTPUT
SIA-24	EXE	206,460	02-01-00	CALPOST SO2 24-HOUR INPUT & OUTPUT
SIA-3H	EXE	206,460	02-01-00	CALPOST SO2 3-HOUR INPUT & OUTPUT
SIA-ADD	EXE	717,733	02-01-00	CALPOST SO2 RESULTS ANALYSIS WORKSHEETS
SIA-NX	EXE	98,873	02-01-00	CALPUFF INPUT & OUTPUT FOR NOX

DISK 3 - CALMET, CALPUFF, AND CALPOST INCREMENT ANALYSIS FILES

CMT-INP	EXE	794,720	02-01-00	CALMET INPUT FILES
INV-24	EXE	99,379	02-01-00	CALPOST ADDITION ANALYSIS FOR 24-HOUR
INV-PUF	EXE	132,681	02-01-00	CALPUFF INVENTORY FILES

DISK 4 - CALPOST CULPABILITY INCREMENT ANALYSIS FOR 3-HOUR AVERAGING FILES

INV-3H	EXE	439,443	02-01-00	CALPOST ADDITION ANALYSIS FOR 3-HOUR
INV-CUL	EXE	921,066	02-01-00	SO2 CULPABILITY

DISK 5 - CALPOST ADDITION INCREMENT ANALYSIS FOR 3-HOUR AVERAGING FILE

INV-ADD	EXE	1,116,178	02-01-00	CALPOST ADDITION ANALYSIS FOR 3-HOUR
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TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME.  
FOR EXAMPLE TO UNARCHIVE THE SO2 ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:

C2SIASO2

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

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

FEBRUARY 1, 2000

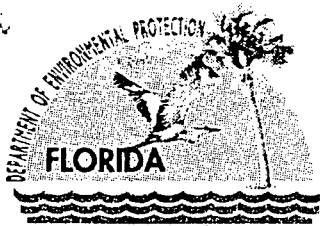
MARK KOLETZKE, P.E.

KOGLER AND ASSOCIATES

(352) 377-5822 KOGLER@WORLDNET.ATT.NET

1999 USAC SO2 CEM DATA

	<u>EMISSIONS (lbs/day)</u>	
	<u>PLANT 1</u>	<u>PLANT 2</u>
Maximum	8563	9171
Most Frequent	6228	5241
Average	5423	5494
Avgdev	1247	1206
Avg+Avgdev	6670	6700
Modeling use	6700	6700



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

October 26, 1999

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

Re: U.S. Agri-Chemicals – Fort Meade Plant  
1050051-009-AC, PSD-FL-278

Dear Mr. Worley:

Enclosed for your review and comment is an application for the above mentioned project. It consists of increasing production rates to 3000 TPD of sulfuric acid plants No. 1 and 2. The facility had received a construction permit (PSD-FL-107) in August 1985 for the same production rate, but were unable to achieve that production rate.

The applicant has requested a SO<sub>2</sub> limit of 3.5 #/T (3 hour average), sulfuric acid mist limit of 0.15 #/T and a NO<sub>x</sub> limit of 0.12 #/T.

Your comments can be forwarded to my attention at the letterhead address or faxed to me at (850)922-6979. If you have any questions, please contact Syed Arif at (850)921-9528.

Sincerely,

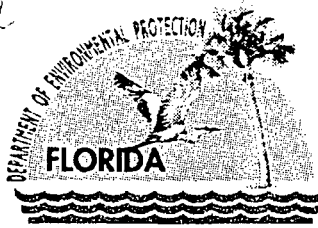
A. A. Linero, P.E.  
Administrator  
New Source Review Section

AAL/kt

Enclosures

cc: S. Arif, BAR

"Protect, Conserve and Manage Florida's Environment and Natural Resources"



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
October 26, 1999

David B. Struhs  
Secretary

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

Re: U.S. Agri-Chemicals – Fort Meade Plant  
1050051-009-AC, PSD-FL-278

Dear Mr. Bunyak:

Enclosed for your review and comment is an application for the above mentioned project. It consists of increasing production rates to 3000 TPD of sulfuric acid plants No. 1 and 2. The facility had received a construction permit (PSD-FL-107) in August 1985 for the same production rate, but were unable to achieve that production rate.

The applicant has requested a SO<sub>2</sub> limit of 3.5 #/T (3 hour average), sulfuric acid mist limit of 0.15 #/T and a NO<sub>x</sub> limit of 0.12 #/T.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at (850)922-6979. If you have any questions, please contact Syed Arif at (850)921-9528.

Sincerely,

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

AAL/kt

Enclosures

cc: S. Arif, BAR

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*



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

**US**  
**Agri-Chemicals**

A Sinochem Company

RECEIVED

OCT 18 1999

BUREAU OF AIR REGULATION

October 15, 1999

Mr. Clair Fancy, P.E.  
DEP - Bureau of Air Regulation  
2600 Blair Stone Rd  
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

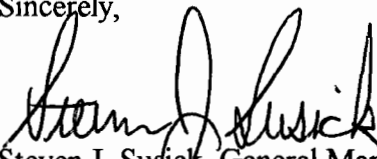
RE: Ft. Meade Chemical Plant, 1050051-003-AV  
Sulfuric Acid Plant #1, E.U. ID # 016  
Sulfuric Acid Plant #2, E.U. ID # 017

1050051-009-AC  
P50-F1-278

Enclosed are 4 copies of an application for the modification of the existing sulfuric acid plants and a \$7,500 check to cover application processing fee.

Please feel free to contact me at (941) 285-7123, extension 344, if you have any questions.

Sincerely,

  
Steven J. Susick, General Manager  
Engineering & Technical Services

xc: V. Ta  
R. Brunk

SWD  
Polk Co.  
EPA  
NPS  
S. Arif, BAR



Florida Department of Environmental Protection(158442)

Check Number: 058916

Check Date: 10/15/99

Sulfuric Acid Plants Air Construction  
Modification Permit Application Fee

70000-76-7152      \$7,500.00

**US** kbh  
Agri-Chemicals

3225 STATE ROAD 630 W. FORT MEADE, FLORIDA 33841-9799 PHONE 941/285-8121

THE FACE OF THIS DOCUMENT HAS A VOID PANTOGRAPH AND MICROPRINTING IN SIGNATURE LINE.

**US**

Agri-Chemicals

3225 State Road 630 West  
Fort Meade, FL 33841-9799  
(941) 285-8121

10/15/99

058916

PAYSEVEN THOUSAND FIVE HUNDRED AND NO/100 DOLLARS

AMOUNT

\$\$\$7,500.00\*\*

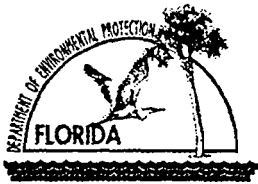
TO  
THE  
ORDER  
OF

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FL. 32399-2400

**SUNTRUST**

SunTrust / Mid-Florida, N.A.  
Fort Meade, FL 33841

*Beverly Hopkins*  
*[Signature]*



# 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: U.S. Agri-Chemicals Corp.	
2. Site Name: Ft. Meade Chemical Plant	
3. Facility Identification Number: 1050051	[ ] Unknown
4. Facility Location: County Road 630 Street Address or Other Locator: 2 miles west of Ft. Meade City: Ft. Meade County: Polk Zip Code: 33841	
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: same as above Organization/Firm: Street Address: City: State: Zip Code:			
3. Application Contact Telephone Numbers: Telephone: (941) 285 -7123, ext. 279 Fax: (941) 285 -7088			

##### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	October 18, 1999
2. Permit Number:	1050051-009-AC
3. PSD Number (if applicable):	PSD-F1-278
4. Siting Number (if applicable):	

**RECEIVED**

OCT 18 1999

**Purpose of Application    *Not Applicable***

**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: Steven J. Susick, P.E., General Manager of Engineering & 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: (941 )285 -8121, ext 344 Fax: (941 )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>Steven J. Susick</u> Date: <u>OCTOBER 15, 1999</u>

\* Attach letter of authorization if not currently on file.

**Professional Engineer Certification**

1. Professional Engineer Name: Steven J. Susick, P.E. Registration Number: 0034374
2. Professional Engineer Mailing Address: same as above Organization/Firm: Street Address: City: State: Zip Code:
3. Professional Engineer Telephone Numbers: Telephone: (941 )285 -8121, ext 344 Fax: (941 )285 -9779

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.*

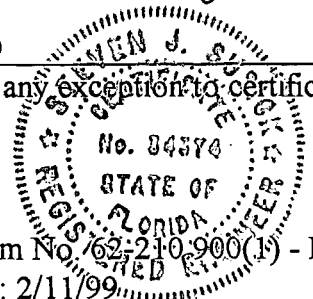
*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [  ], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me 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 *Steven J. Lukic*

\_\_\_\_\_  
Date *OCTOBER 15, 1999*

(seal)



\* Attach any exception to certification statement.



**Construction/Modification Information**

1. Description of Proposed Project or Alterations:

USAC received a construction permit (PSD FL-107) to de-bottleneck the existing sulfuric acid plants in August 1985 to increase production up to 3000 TPD each plant. To date, the planned production has not been achieved. Due to recent technological advances, USAC proposes to make additional modification to the plants to increase production rate up to 3000 TPD each plant. The extent of modification primarily involves catalyst type and quantity in the converter. Minor modification to the plant's feed rate, heat transfer system, acid distribution system, etc. may be made as necessary to accommodate the increased production. Based on the latest BACT determination issued to Farmland Hydro L.P., (PSD FL-243) the net emissions increase above the past 2-year average are:

	Plant #1 (tons)	Plant #2 (tons)
SO2	934.2	902.6
SAM	66.98	66.13
NOx	45.15	34.2

(Note that the SO2 limit of 3.5 lbs./T is average over 3 hours)

2. Projected or Actual Date of Commencement of Construction: 9/30/00

3. Projected Date of Completion of Construction: 12/31/02

**Application Comment**

[Empty box for Application Comment]





**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 checked="" type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

**List of Applicable Regulations**

40CFR60, SUBPART A	GENERAL NSPS
40CFR60, APPENDIX A	TEST METHODS
40CFR61, SUBPART R	GYPSUM STACK
40CFR61, APPENDIX B	TEST METHODS
DEP TITLE V CORE LIST	
40CFR61, SUBPART A	GENERAL NESHAP
CHAPTER 62-4, 204, 210, 212, 213, 214, 252, 256, 257, 281, 296, 297 FAC	Florida Air Rules
CHAPTER 62-212, FAC	PRECONSTRUCTION REVIEW
40CFR68	ACCIDENTIAL RELEASE PREVENTION
40 CFR 52, 55, 63, 82	EPA AIR RULES





**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: _100000145871) 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><b><u>Sulfuric Acid Plant #1</u></b></p>			
<p>4. Emissions Unit Identification Number:</p> <p>ID: 016</p>		<p><input type="checkbox"/> No ID</p> <p><input type="checkbox"/> ID Unknown</p>	
<p>5. Emissions Unit Status Code: A</p>	<p>6. Initial Startup Date: NA</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>28</p>	<p>8. Acid Rain Unit? No <input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p>			

**Emissions Unit Control Equipment**

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

Double Absorption  
High Efficiency Mist Eliminators

2. Control Device or Method Code(s): 044 and 015

**Emissions Unit Details** *Not Applicable*

1. Package Unit:

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:	NA	mmBtu/hr
2. Maximum Incineration Rate:	NA lb/hr	tons/day
3. Maximum Process or Throughput Rate:	NA	
4. Maximum Production Rate:	125 TPH or 3000 TPD	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 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? SAD1		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):  NA			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  NA			
5. Discharge Type Code: V	6. Stack Height: 174 feet	7. Exit Diameter: 8.5 feet	
8. Exit Temperature: 160 °F	9. Actual Volumetric Flow Rate: 150,800 acfm	10. Water Vapor: 0 %	
11. Maximum Dry Standard Flow Rate: NA dscfm		12. Nonstack Emission Point Height: NA	
13. Emission Point UTM Coordinates: NA 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): Maximum rate		
2. Source Classification Code (SCC): 3-01-023-01		3. SCC Units: Tons produced
4. Maximum Hourly Rate: 125	5. Maximum Annual Rate: 1,095,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 3,000/24=125 Maximum Annual Rate=3,000*365=1,095,000		

**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: SO <sub>2</sub>	2. Total Percent Efficiency of Control: 99.75
3. Potential Emissions: 437.5 lb/hour	4. Synthetically Limited? [ ] 1916.25 tons/year
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 3.5 #/T Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): Potential Emissions: 125 TPH * 3.5 #/T = 437.5 lb/hour 437.5 lb/hour * 8760 H/Y / 2000 #/T = 1916.25 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

**Allowable Emissions** Allowable Emissions  1  of  3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 3.5 lb/ton acid produced	4. Equivalent Allowable Emissions: 437.5 lb/hour 1916.25 tons/year
5. Method of Compliance (limit to 60 characters): EPA METHOD 8	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  Basis for Allowable Emissions Code is proposed BACT	

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

**Potential/Fugitive Emissions**

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control: 91.2
3. Potential Emissions: 18.75 lb/hour 82.125 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.15 #/T Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): 125 TPH * 0.15 #/T = 18.75 lb/hour 18.75 lb/hour * 8760 H/Y / 2000 #/T = 82.125 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

**Allowable Emissions** Allowable Emissions  2  of  3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 0.15 lb/ton acid produced	4. Equivalent Allowable Emissions: 18.75 lb/hour 82.125 tons/year
5. Method of Compliance (limit to 60 characters): EPA METHOD 8	

**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: NA
3. Potential Emissions: 15 lb/hour 65.7 tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: 0.12 #/T Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters):  $125 \text{ TPH} * 0.12 \text{ \#/T} = 15 \text{ lb/hour}$ $15 \text{ lb/hour} * 8760 \text{ H/Y} / 2000 \text{ \#/T} = 65.7 \text{ TPY}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

**Allowable Emissions** Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 0.12 lb/ton acid produced	4. Equivalent Allowable Emissions: 15 lb/hour 65.7 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 7E	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Basis for Allowable Emissions Code is proposed BACT	

**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: VE10	2. Basis for Allowable Opacity: [X ] Rule [ ] Other
3. Requested Allowable Opacity: 10 Normal Conditions: 10 % 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): Basis for Allowable Opacity is NSPS	

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

**Continuous Monitoring System:** Continuous Monitor  1  of  1

1. Parameter Code: EM	2. Pollutant(s): SO <sub>2</sub>
3. CMS Requirement:	[X ] Rule [ ] Other
4. Monitor Information: Manufacturer: Dupont Model Number: 460 Serial Number: 5724	
5. Installation Date: 3/1/82	6. Performance Specification Test Date: 3/28/83
7. Continuous Monitor Comment (limit to 200 characters): CMS Requirement RULE is NSPS	



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

**Supplemental Requirements**

1. Process Flow Diagram <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" 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
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
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: <u>FSI</u> _____ <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 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><b><u>Sulfuric Acid Plant #2</u></b></p>			
<p>4. Emissions Unit Identification Number:</p> <p>ID: 017</p>		<p><input type="checkbox"/> No ID</p> <p><input type="checkbox"/> ID Unknown</p>	
<p>5. Emissions Unit Status Code: A</p>	<p>6. Initial Startup Date: NA</p>	<p>7. Emissions Unit Major Group SIC Code: 28</p>	<p>8. Acid Rain Unit? No <input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p>			

**Emissions Unit Control Equipment**

<p>1. Control Equipment/Method Description (Limit to 200 characters per device or method):</p> <p>Double Absorption High Efficiency Mist Eliminators</p>
<p>2. Control Device or Method Code(s): 044 and 015</p>

**Emissions Unit Details** *Not Applicable*

<p>1. Package Unit:                  Manufacturer: _____ Model Number: _____</p>						
<p>2. Generator Nameplate Rating: _____ MW</p>						
<p>3. Incinerator Information:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Dwell Temperature:</td> <td style="text-align: right;">°F</td> </tr> <tr> <td style="text-align: right;">Dwell Time:</td> <td style="text-align: right;">seconds</td> </tr> <tr> <td style="text-align: right;">Incinerator Afterburner Temperature:</td> <td style="text-align: right;">°F</td> </tr> </table>	Dwell Temperature:	°F	Dwell Time:	seconds	Incinerator Afterburner Temperature:	°F
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:	NA	mmBtu/hr
2. Maximum Incineration Rate:	NA lb/hr	tons/day
3. Maximum Process or Throughput Rate:	NA	
4. Maximum Production Rate:	125 TPH or 3000 TPD	
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 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? SAD2		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): NA			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA			
5. Discharge Type Code: V	6. Stack Height: 174 feet	7. Exit Diameter: 8.5 feet	
8. Exit Temperature: 160 °F	9. Actual Volumetric Flow Rate: 150,800 acfm	10. Water Vapor: 0 %	
11. Maximum Dry Standard Flow Rate: NA dscfm		12. Nonstack Emission Point Height: NA	
13. Emission Point UTM Coordinates: NA 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): Maximum rate		
2. Source Classification Code (SCC): 3-01-023-01		3. SCC Units: Tons produced
4. Maximum Hourly Rate: 125	5. Maximum Annual Rate: 1,095,000	6. Estimated Annual Activity Factor: NA
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: NA
10. Segment Comment (limit to 200 characters): Maximum Hourly Rate = 3,000/24=125 Maximum Annual Rate=3,000*365=1,095,000		

**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: SO <sub>2</sub>	2. Total Percent Efficiency of Control: 99.75
3. Potential Emissions: 437.5 lb/hour	4. Synthetically Limited? [ ] 1916.25 tons/year
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 to _____ tons/year	
6. Emission Factor: 3.5 #/T Reference: Proposed BACT	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): Potential Emissions: 125 TPH * 3.5 #/T = 437.5 lb/hour 437.5 lb/hour * 8760 H/Y / 2000 #/T = 1916.25 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

**Allowable Emissions** Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions: NA
3. Requested Allowable Emissions and Units: 3.5 lb/ton acid produced	4. Equivalent Allowable Emissions: 437.5 lb/hour 1916.25 tons/year
5. Method of Compliance (limit to 60 characters): EPA METHOD 8	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  Basis for Allowable Emissions Code is proposed BACT	

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

**Potential/Fugitive Emissions**

1. Pollutant Emitted: SAM		2. Total Percent Efficiency of Control: 91.2	
3. Potential Emissions: 18.75 lb/hour 82.125 tons/year		4. Synthetically Limited? [ ]	
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: 0.15 #/T Reference: Proposed BACT		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters): 125 TPH * 0.15 #/T = 18.75 lb/hour 18.75 lb/hour * 8760 H/Y / 2000 #/T = 82.125 TPY			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions  2  of  3

1. Basis for Allowable Emissions Code: RULE		2. Future Effective Date of Allowable Emissions: NA	
3. Requested Allowable Emissions and Units: 0.15 lb/ton acid produced		4. Equivalent Allowable Emissions: 18.75 lb/hour 82.125 tons/year	
5. Method of Compliance (limit to 60 characters): EPA METHOD 8			

**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: NA	
3. Potential Emissions: 15 lb/hour 65.7 tons/year		4. Synthetically Limited? [ ]	
5. Range of Estimated Fugitive Emissions: [ X ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: 0.12 #/T Reference: Proposed BACT		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters):  125 TPH * 0.12 #/T = 15 lb/hour 15 lb/hour * 8760 H/Y / 2000 #/T = 65.7 TPY			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions  3  of  3

1. Basis for Allowable Emissions Code: RULE		2. Future Effective Date of Allowable Emissions: NA	
3. Requested Allowable Emissions and Units: 0.12 lb/ton acid produced		4. Equivalent Allowable Emissions: 15 lb/hour 65.7 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 7E			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Basis for Allowable Emissions Code is proposed BACT			

**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: VE10	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: 10 Normal Conditions: 10 % 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): Basis for Allowable Opacity is NSPS	

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

**Continuous Monitoring System:** Continuous Monitor  1  of  1

1. Parameter Code: EM	2. Pollutant(s): SO <sub>2</sub>
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Dupont Model Number: 460 Serial Number: 5723	
5. Installation Date: 3/1/82	6. Performance Specification Test Date: 3/28/83
7. Continuous Monitor Comment (limit to 200 characters): CMS Requirement RULE is NSPS	

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

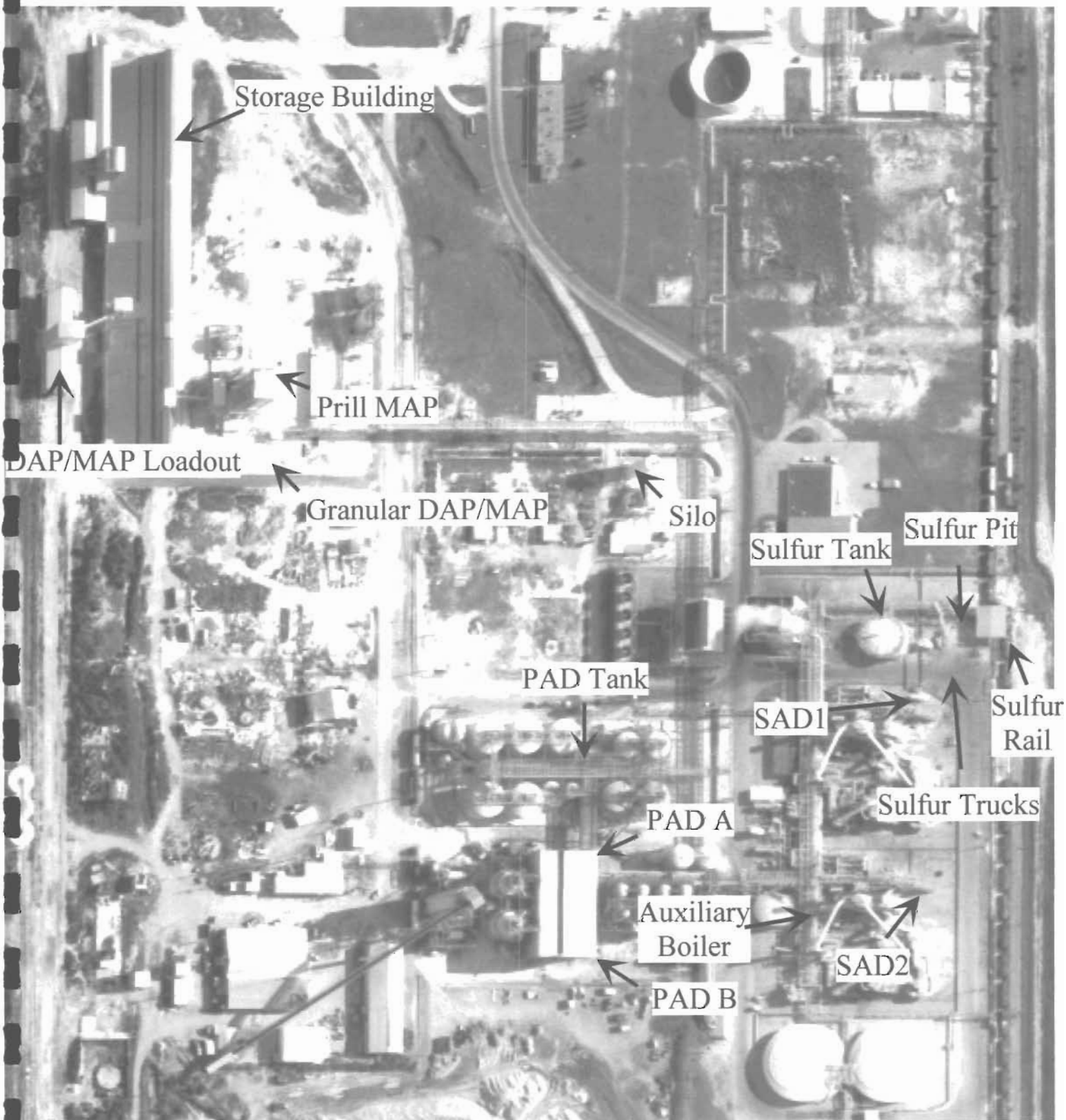
**Supplemental Requirements**

1. Process Flow Diagram <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" 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
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
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: <u>  FSI  </u> <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**

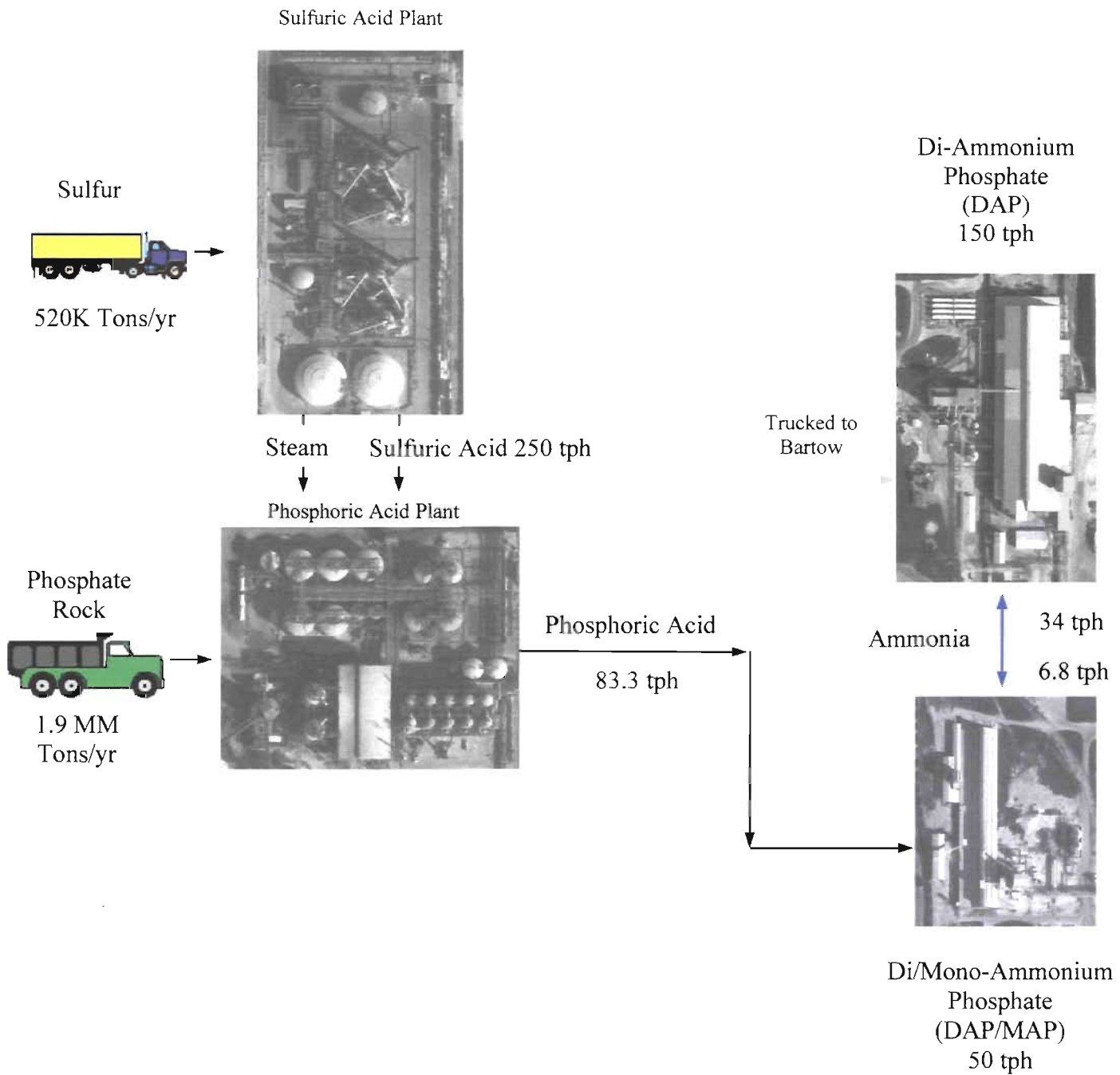
11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
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

# U.S. Agri-Chemicals Title V Facility Plot Plan





# U.S. Agri-Chemicals Ft. Meade Product Flow Diagram



**Precautions To Prevent Emissions of Unconfined Particulate Matter**

A. Identification of unconfined particulate matter emissions that may result from construction and modification of the facility:

- Vehicular traffics, construction, demolition, open stock piles, abrasive blasting, spray painting.

B. Precautions that will be taken to prevent or control unconfined particulate matter emissions may include, but shall not be limited to the following:

1. Paving and maintenance of roads, parking areas and yards.
2. Application of water or chemicals to control emissions from such activities as demolition of buildings, and construction.
3. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar emissions units.
4. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the emissions unit to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
5. Landscaping or planting of vegetation.
6. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
7. Confining abrasive blasting where possible.

**Supplemental Information for Construction Permit Application**

Since the application package submitted in 1984 contains most of the required information, only updated data are provided herein.

Emissions: USAC proposes to meet the latest BACT determined for Farmland Hydro, L.P. dated 7/15/98 (PSD FL-243). (Note that the SO<sub>2</sub> limit of 3.5 lbs./T is averaged over 3 hours)

Current actual equals average of the past 2 years (Tons):

Plant #1	1997	1998	Average
SO <sub>2</sub>	958.5	1005.7	982.1
SAM	10.9	19.4	15.15
NO <sub>x</sub>	20.4	20.7	20.55

Plant #2	1997	1998	Average
SO <sub>2</sub>	1057.9	969.4	1013.65
SAM	13.8	18.2	16
NO <sub>x</sub>	31.4	31.6	31.5

Future allowable is calculated based on the proposed BACT and 3000 TPD:

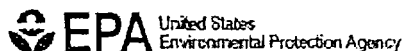
	Farmland (lbs./ton)	Plant #1 (tons)	Plant #2 (tons)
SO <sub>2</sub>	3.5	1916.25	1916.25
SAM	0.15	82.125	82.125
NO <sub>x</sub>	0.12	65.7	65.7

Net emissions increase is the difference between actual and allowable:

	Plant #1 (tons)	Plant #2 (tons)	PSD significant
SO <sub>2</sub>	934.2	902.6	40
SAM	66.98	66.13	7
NO <sub>x</sub>	45.15	34.2	40

Since the above table shows that annual emissions increases are above the PSD Significant Emission Rates, this project is subject to the New Source Review requirements. As noted earlier, the application package submitted in 1984 contains all information that satisfied NSR requirements. The applicant's proposal to meet the latest BACT determination negates the need for a detailed BACT rationale.

Facility Name: U. S. Agri-Chemicals, Ft. Meade  
EPA ID: 1000 0014 5871



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460  
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

Ronald L. Brunk  
U.S. Agri-Chemicals  
3225 C.R. 630 W.  
Ft. Meade, FL 33841-9799

July 22, 1999

EPA Facility ID#: 1000 0014 5871  
Postmark Date: 06/21/1999  
Anniversary Date: 06/21/2004

NOTIFICATION LETTER: COMPLETE RMP

The U.S. Environmental Protection Agency (EPA) received your Risk Management Plan (RMP) dated with the above postmark date. **This letter notifies you that your RMP is "complete" according to EPA's completion check.** The completion check is a program implemented by EPA to determine whether a submitted RMP includes the minimum amount of information every RMP must provide. The completion check does not assess whether a submitted RMP should have provided additional information or whether the information it provides is accurate or appropriate. In other words, it does not indicate that the RMP meets the requirements of 40 CFR Part 68.

Please note the anniversary date indicated above. Your RMP must be revised and updated by this date or earlier as required by 40 CFR §68.190. Please also note your EPA Facility ID number as identified at the top of this letter; all future Risk Management Plan submissions, corrections and other correspondence must include this number.

Your RMP (excluding the Offsite Consequence Analysis data) can be viewed on RMP\*Info™, a national database on the Internet at <http://www.epa.gov/enviro>.

If you have any questions, please call one of the following numbers:

(1) For RMP rule interpretation questions, call the EPCRA Hotline at (800) 424-9346 or (703) 412-9810 (in the D.C. Metro area).

(2) For RMP\*Submit installation and software questions, or information on the status of your RMP, contact the RMP Reporting Center at (703) 816-4434, or write to the:

RMP Reporting Center  
P.O. Box 3346  
Merrifield, VA 22116-3346

(3) For more information on the Risk Management Program, you can contact your Implementing Agency. Your Implementing Agency is Florida Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, FL, 32399, Phone: 850-413-9970.

Thank you for your cooperation in this matter.

Sincerely,

RMP Reporting Center

Enclosure:

Risk Management Plan (if submitted on paper)

**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  
 Gen. Mgr. of Eng. & Tech  
 Services  
 US Agri-Chemicals Corp.  
 3225 State Rd. 630 West  
 Ft. Meade, FL 33841

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 \_\_\_\_\_ 2-8-01

C. Signature  Agent  
 *Phong T. Vo*  Addressee

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 (Copy from service label)

7099 3400 0000 1449 4000

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

7099 3400 0000 1449 4000

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

Article Sent To:  
*Phong T. Vo*

Postage	\$	<i>US Agri</i> Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
<b>Total Postage &amp; Fees</b>	<b>\$</b>	

Name (Please Print Clearly) (to be completed by mailer)  
*Phong T. Vo*  
 Street, Apt. No., or P.O. Box No.  
*3225 State Rd 630 W*  
 City, State, ZIP+4  
*Ft. Meade FL 33840*

PS Form 3800, July 1999

See Reverse for Instructions

**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, Gen. Mgr.  
 Engineering and Technical Services  
 U. S. Agri-Chemical Corp  
 3225 State Rd. 630 West  
 Ft. Meade, FL 33841

2. Article Number (Copy from service label)  
 7099 3400 0000 1453 0142

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 11-05-00

C. Signature  
 X *[Signature]*  Agent  Addressee

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

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

Article Sent To:  
 Mr. Phong T. Vo, Gen. Mgr.

Postage	\$	US Agri-Chem.
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
<b>Total Postage &amp; Fees</b>	\$	Postmark Here

Name (Please Print Clearly) (to be completed by mailer)  
 Mr. Phong T. Vo, Gen. Mgr.

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

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

PS Form 3800, July 1999 See Reverse for Instructions

7099 3400 0000 1453 0142

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	A. Received by (Please Print Clearly)	B. Date of Delivery 7-24-00
<p>1. Article Addressed to: Mr. Phong T. Vo Gen. Mgr., E&amp;TS U.S. Agri-Chemicals Corp. 3225 State Rd. 630 W. Fort Meade, FL 33841</p>	<p>C. Signature X <i>Phong T. Vo</i> <input type="checkbox"/> Agent <i>Phong T. Vo</i> <input type="checkbox"/> Addressee</p>	
<p>2. Article Number (Copy from service label) <b>Z 031 392 031</b></p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>PS Form 3811, July 1999</p>	<p>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.</p>	
	<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>	

Domestic Return Receipt 102595-99-M-1789

Z 031 392 031

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to <i>Mr. Phong T. Vo</i>	
Street & Number <i>3225 State Rd 630 West</i>	
Post Office, State, & ZIP Code <i>Fort Meade FL 33841</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
<b>TOTAL Postage &amp; Fees</b>	<b>\$</b>
Postmark or Date <i>7/20/00</i> <i>U.S. Agri Chemicals</i>	

PS Form 3800, April 1995



**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, E&TS  
 U.S. Agrichemicals Corp.  
 3225 SR 630 West  
 Fort Meade, FL 33841

2. Article Number (Copy from service label)  
 Z 031 392 034

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

7-25-00

C. Signature

X *M. Vo*

- Agent
- Addressee

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.

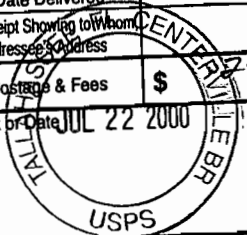
4. Restricted Delivery? (Extra Fee)  Yes

Z 031 392 034

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to	
Mr. Phong T. Vo	
Street & Number	
3225 ST 630 West	
Post Office, State, & ZIP Code	
Bartow, FL 33841	
Postage	\$ 33
Certified Fee	140
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	125
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$ 298
Postmark or Date	JUL 22 2000

PS Form 3800, April 1995



Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1.  Addressee's Address

2.  Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:  
**Steven J. Susick, PE**  
**General Manager, EFTS**  
**US Agri-Chemicals Corp.**  
**3225 State Road 630 West**  
**Fort Meade, FL 33841**

4a. Article Number  
**Z 031 391 875**

4b. Service Type  
 Registered  
 Express Mail  
 Return Receipt for Merchandise  
 Certified  
 Insured  
 COD

7. Date of Delivery  
**3-8-00**

8. Addressee's Address (Only if requested and fee is paid)

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)  
**X** *[Signature]*

102595-98-B-0229 Domestic Return Receipt

Thank you for using Return Receipt Service.

PS Form 3811, December 1994

Z 031 391 875

**US Postal Service**  
**Receipt for Certified Mail**

No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to <b>Steven Susick</b>	
Street & Number <b>US Agri Chemicals Corp.</b>	
Post Office, State, & ZIP Code <b>630 W 3225 State Road Ft Meade, FL</b>	
Postage	\$ <b>33.841</b>
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
<b>TOTAL Postage &amp; Fees</b>	<b>\$</b>
Postmark or Date <b>3-3-00</b>	
<b>1050051-009-AC</b> <b>PSD-FL-278</b>	

PS Form 3800, April 1995

Is your RETURN ADDRESS completed on the reverse side?

<b>SENDER:</b> ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Steven G. Susick, PE US Agri-Chem 3225 State Rd-630 West Ft. Meade, FL 33841-9799	4a. Article Number Z 031 392 001	
	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
	7. Date of Delivery 11-11-99 G	
5. Received By: (Print Name)	8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Addressee or Agent) X <i>[Signature]</i>		

Thank you for using Return Receipt Service.

Z 031 392 001

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

Sent to	<i>Steve Susick</i>
Street & Number	<i>US Agri Chem</i>
Post Office, State, & ZIP Code	<i>Ft. Meade FL</i>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>1050051-009-AC 11-4-99</i> <i>P50-F1-278</i>

PS Form 3800, April 1995

# AFFIDAVIT OF PUBLICATION

## THE LEDGER

### Lakeland, Polk County, Florida

Case No .....

Attach Notice Here

STATE OF FLORIDA)  
COUNTY OF POLK)

Before the undersigned authority personally appeared Sandra Beeler, who on oath says that she is the Inside Sales Supervisor of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

Public Notice

in the matter of DEP File No. 1050051-009-AC (PSD)-FL-278)

in the

Court, was published in said newspaper in the issues of

12-21, 2000

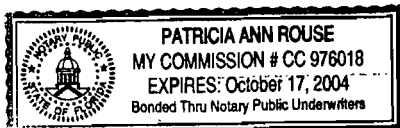
Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said 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 Sandra Beeler  
Sandra Beeler  
Inside Sales Supervisor  
Who is personally known to me.

Sworn to and subscribed before me this 26<sup>TH</sup>  
day of DECEMBER A.D. 2000

Patricia Ann Rouse  
Notary Public

**PATRICIA ANN ROUSE**



(Seal)

My Commission Expires.....

**RECEIVED**

JAN 04 2001

BUREAU OF AIR REGULATION

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DEP File No. 1050051-009-AC (PSD-FL-278)  
Ft. Meade Chemical Plant  
US Agri-Chemicals Corporation  
Polk County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to US Agri-Chemicals Corporation to increase the sulfuric acid and phosphoric acid production capability within the complex and to increase the processing rate of the Phosphoric Acid Tank Farm at its Ft. Meade Chemical Plant. The plant is located at 3225 State Rd. 630 West, Ft. Meade, Polk County.

A Best Available Control Technology (BACT) determination was required for sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), nitrogen oxides (NO<sub>x</sub>) and fluorides (F) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD), the applicant's name and address are US Agri-Chemicals Corporation, 3225 State Rd. 630 West, Ft. Meade, Florida 33841.

The physical production capability of the existing Sulfuric Acid Plants Nos. 1 and 2 will be increased to 3000 tons per day to match the previously-permitted production rates. The production rate of the existing Phosphoric Acid Trains A and B will be increased from 44 to 50 tons per hour P<sub>2</sub>O<sub>5</sub> input, each. A proportional increase will result in the processing rate of the Phosphoric Acid Tank Farm. Sulfur dioxide and sulfuric acid mist emissions from the sulfuric acid plants will be controlled by the double absorption process and mist eliminators, respectively.

The BACT emission limits for SO<sub>2</sub> and SAM are proposed to be 3.5 and 0.12 pounds per ton of sulfuric acid respectively SO<sub>2</sub>. These are the lowest values to-date in the fertilizer industry. Fluoride emissions from the phosphoric acid trains will be controlled by the use of scrubbers using process pond water. The BACT fluoride emission limit is proposed to be 0.012 pounds per ton of P<sub>2</sub>O<sub>5</sub> input. This is equal to the lowest value to-date.

An air quality impact analysis for sulfur dioxide and nitrogen oxides 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 NO<sub>2</sub> impacts were insignificant so no PSD Class II increment consumption analysis was required for NO<sub>2</sub>. The maximum predicted SO<sub>2</sub> PSD Class II increments in the vicinity of the project consumed by all sources in the area, including this project, will be as follows:

	<u>Increment Consumed</u> (ug/m <sup>3</sup> )	<u>Allowable Increment</u> (ug/m <sup>3</sup> )	<u>Increment Consumed</u> (Percent)
SO <sub>2</sub>			
3-hour	259	512	51
24-hour	63	91	69
Annual	0	20	0

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.

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 written 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 title 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 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:

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

Department of Environmental Protection  
Southwest District Office  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
Telephone: 815-744-6100  
Fax: 813/744-6458

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.