TO: File – Farmland Hydro, L.P. (PSD-FL-225)

THRU: A. A. Linero

FROM: John Reynolds

DATE: November 1, 1999

SUBJ: Clarification of Molten Sulfur Storage Tank Addition

The Southwest District Office suggested that this memo be recorded in the file to explain the rationale for the handling of the additional molten sulfur storage tank requested following the filing of Farmland's original application to increase the production rates of its No. 3, 4 and 5 Sulfuric Acid Plants.

Discussions in May, 1995 with Farmland's consultant, Koogler & Associates, indicated that the sulfur tank installation was for operational flexibility and would not increase the net feed rates for the sulfuric acid plants themselves. Since a separate construction permit is typically not issued for a storage tank that is an integral part of a process that has its end product (or feed stream) limited by the permit, this modification was intended to be covered by PSD-FL-225 as indicated in K&A's letter dated August 21, 1995. However, the operation of the new sulfur tank as a "loadout" facility, i.e., a terminal for other production units in the complex (or other facilities located elsewhere), would require a separate permit as a "storage/loadout" facility. My recollection is that this type of operation would have been the source of any significant emissions increases and that K&A was advised to obtain a separate permit if the system was to be operated in that manner.

C: Kissel, SWD

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 16, 1997

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Charles Jenkins, Manager
of Environmental & Safety Services
Farmland Hydro, L.P.
Post Office Box 960
Bartow, Florida 33831

RE: Polk County-AP, Green Bay Complex
Sulfuric Acid Production Reallocation
Permit I.D. No. 1050053-018-AC, PSD-FL-225

Dear Mr. Jenkins:

The Bureau of Air Regulation received your request for a minor modification of the above-referenced permit and has determined that a PSD permit application is required. An additional processing fee of $7250 pursuant to Rule 62-4.050(4)(r)5, F.A.C., must be submitted along with the PSD application.

If you have any questions, please call John Reynolds at (904)488-1344.

Sincerely,

A A Linero 10/16

A. A. Linero, P.E.
Administrator
New Source Review Section
Bureau of Air Regulation

AAL/kt

cc: John Reynolds, BAR
John Bunyak, NPS
Brian Beals, EPA
Bill Thomas, SWD
Roy Harwood, Polk Co.

P 265 659 472

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

Sent to: Charles Jenkins	
Street & Number: Farmland Hydro	
Post Office, State, & ZIP Code: Bartow, 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	10-16-97

1050053-018-AC
P50-FI-225

PS Form **3800**, April 1995

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

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:
Mr. Charles Jenkins, Mgr
Farmland Hydro, CP
P O Box 960
Bartow, Fl 33831

4a. Article Number
P 265 659 472

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

7. Date of Delivery
10/21/97

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*
X 960

6. Signature: *(Addressee or Agent)*
X Joan Jenkins

PS Form **3811**, December 1994 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

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

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: **Farmland Hydro, L.P.**	
2. Site Name: **Green Bay Plant**	
3. Facility Identification Number: **1050053**	[ ] Unknown
4. Facility Location: Street Address or Other Locator: **4390 County Road 640 West** City: **Bartow** County: **Polk** Zip Code: **33830**	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	October 3, 1997
2. Permit Number:	1050053-018-AC
3. PSD Number (if applicable):	PSD-FL-225
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   C. M. Farris, Vice President, Operations

2. Owner/Authorized Representative or Responsible Official Mailing Address:

   Organization/Firm: **Farmland Hydro, L.P.**
   Street Address: **P.O. Box 960**
   City: **Bartow** State: **FL** Zip Code: **33831**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (**941**) **533-1141** Fax: (**941**) **533 - 8793**

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., 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.*

C M Farris
Signature

Sept. 15, 1997
Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit	Permit Type
004	SULFURIC ACID PLANT #4	ACM1
005	SULFURIC ACID PLANT #5	ACM1
No Corresponding I.D.	SULFURIC ACID PLANT #6	ACM1

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., 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: _____

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be revised: _____

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

[ ] Air operation permit revision for a Title V source 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 to be revised: _____

Reason for revision: _____

_____

Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units

This Application for Air Permit is submitted to obtain:

[**X**] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: **NA**

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

Current operation permit number(s): _____

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

Application Processing Fee

Check one:

[X] Attached - Amount: $ 250.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

The proposed project consists of replacing Sulfuric Acid Plant No. 3 with a new more efficient sulfuric acid pant (No. 6) and redistributing facility-wide sulfuric acid production as shown below.

SAP PLANT	Permitted Production Rate (TPY)	Proposed Production Rate (TPY)
SAD3	2100	0
SAD4	2100	1850
SAD5	2800	2400
New SAD6	0	2750
TOTAL:	7000	7000

2. Projected or Actual Date of Commencement of Construction:
February 1, 1998

3. Projected Date of Completion of Construction:
February 1, 2000

Professional Engineer Certification

1. Professional Engineer Name: : **John B. Koogler, Ph.D., P.E.**
Registration Number: **12925**

2. Professional Engineer Mailing Address:

Organization/Firm: **Koogler & Associates**
Street Address: **4014 NW 13th Street**
City: **Gainesville** State: **FL** Zip Code: **32609**

3. Professional Engineer Telephone Numbers:
Telephone: (**352**) **377** - **5822** Fax: (**352**) **377** - **7158**

4. Professional Engineer Statement:

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

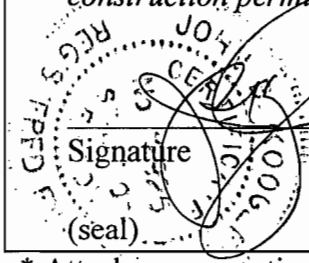
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions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

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

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

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

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



Signature

9/12/97

Date

(seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

Pradeep Raval

2. Application Contact Mailing Address:

Organization/Firm: **Koogler & Associates**
Street Address: **4014 NW 13th Street**
City: **Gainesville** State: **FL** Zip Code: **32609**

3. Application Contact Telephone Numbers:
Telephone: **(352) 377 - 5822** Fax: **(352) 377 - 7158**

Application Comment

This application is submitted in the format suggested by FDEP regarding permit amendments. Additional information will be submitted , as necessary, during the permitting process.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **410.3** North (km): **3079.7**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code:	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **28**	6. Facility SIC(s): **2874**
7. Facility Comment (limit to 500 characters): **Phosphate Fertilizer Plant**			

Facility Contact

1. Name and Title of Facility Contact: **Charles Jenkins, Manager of Env. & Safety Services**
2. Facility Contact Mailing Address: Organization/Firm: **Farmland Hydro, L.P., Green Bay Plant** Street Address: **P.O. Box 960** City: **Bartow** State: **FL** Zip Code: **33831**
3. Facility Contact Telephone Numbers: Telephone: **(941) 533-1141, ext. 334** Fax: **(941) 533 - 8793**

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [X] No [ ] Unknown
2. Title V Source? [X] Yes [ ] No
3. Synthetic Non-Title V Source? [ ] Yes [X] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? [X] Yes [ ] No
5. Synthetic Minor Source of Pollutants Other than HAPs? [ ] Yes [X] No
6. Major Source of Hazardous Air Pollutants (HAPs)? [ ] Yes [X] No
7. Synthetic Minor Source of HAPs? [ ] Yes [X] No
8. One or More Emissions Units Subject to NSPS? [X] Yes [ ] No
9. One or More Emission Units Subject to NESHAP? [X] Yes [ ] No
10. Title V Source by EPA Designation? [ ] Yes [X] No
11. Facility Regulatory Classifications Comment (limit to 200 characters):

B. FACILITY REGULATIONS

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

FDEP CORE LIST	
FS 120, 403	
FAC 62-4, 204, 210, 212, 213, 214, 252, 256, 257, 281, 296, 297	
40 CFR 52, 55, 60, 61, 63, 82.	

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
PM/PM10	**A**
SO2	**A**
NOX	**A**
SAM	**A**
FL	**B**
CO	**B**
VOC	**B**

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information: Pollutant _____ of _____

1. Pollutant Emitted: **NA**		
2. Requested Emissions Cap:	(lb/hour)	(tons/year)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information: Pollutant _____ of _____

1. Pollutant Emitted: **NA**		
2. Requested Emissions Cap:	(lb/hour)	(tons/year)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
6. Supplemental Information for Construction Permit Application: [ ] Attached, Document ID:_____ [**X**] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. List of Equipment/Activities Regulated under Title VI: [ ] Attached, Document ID:_____ [ ] Equipment/Activities On site but Not Required to be Individually Listed [**X**] Not Applicable
9. Alternative Methods of Operation: [ ] Attached, Document ID:_____ [**X**] Not Applicable
10. Alternative Modes of Operation (Emissions Trading): [ ] Attached, Document ID:_____ [**X**] Not Applicable

11. Identification of Additional Applicable Requirements: [ ] Attached, Document ID:_____ [**X**] Not Applicable
12. Compliance Assurance Monitoring Plan: [ ] Attached, Document ID:_____ [**X**] Not Applicable
13. Risk Management Plan Verification: [ ] Plan Submitted to Implementing Agency - Verification Attached, Document ID:_____ [ ] Plan to be Submitted to Implementing Agency by Required Date [**X**] Not Applicable
14. Compliance Report and Plan: [ ] Attached, Document ID:_____ [**X**] Not Applicable
15. Compliance Certification (Hard-copy Required): [ ] Attached, Document ID:_____ [**X**] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[**X**] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[**X**] 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).

[ ] 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.

[ ] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Sulfuric Acid Plant No. 4**		
2. Emissions Unit Identification Number: **004** [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **28**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters): **Double Absorption**
2. Control Device or Method Code: **044**

B.

1. Description (limit to 200 characters): **Mist Eliminators**
2. Control Device or Method Code: **014**

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date: **NA**		
2. Long-term Reserve Shutdown Date: **NA**		
3. Package Unit: **NA** Manufacturer:	Model Number:	
4. Generator Nameplate Rating: **NA**	MW	
5. Incinerator Information: **NA** Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:		°F seconds °F

Emissions Unit Operating Capacity

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: **1850 TPD 100% H_2SO_4**		
5. Operating Capacity Comment (limit to 200 characters): **Requested production limit.**		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:		
24 hours/day		**7** days/week
52 weeks/year		**8760** hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

N/A

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

DEP Core List, See Page 12.	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sulfuric Acid Plant No. 4**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions 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: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W	
6. Stack Height:	**100** feet
7. Exit Diameter:	**7.5** feet
8. Exit Temperature:	**180** °F

9. Actual Volumetric Flow Rate:	**92,000** acfm
10. Percent Water Vapor : **NA**	%
11. Maximum Dry Standard Flow Rate: **NA**	dscfm
12. Nonstack Emission Point Height: **NA**	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment __1__of__1__

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Sulfuric acid production**	
2. Source Classification Code (SCC): **3-01-023-04**	
3. SCC Units: **Tons 100% H2SO4**	
4. Maximum Hourly Rate: **77.08**	5. Maximum Annual Rate: **675,250**
6. Estimated Annual Activity Factor: **NA**	
7. Maximum Percent Sulfur: **NA**	8. Maximum Percent Ash: **NA**
9. Million Btu per SCC Unit: **NA**	
10. Segment Comment (limit to 200 characters): **Hourly rate is based on 1,850 TPD of 100% H2SO4.**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	**044**	**044**	**EL**
NOx	**000**	**000**	**NS**
SAM	**044**	**014**	**EL**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**		
2. Total Percent Efficiency of Control:	**99.7 %**	
3. Potential Emissions:	**308.3** lb/hour	**1350.5** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____ tons/year	
6. Emission Factor: **4 LB/TON ACID** Reference: **Permit**		
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **SO2 = 4 LB/TON X 1850 TPD / 24 HRS/DAY = 308.3 LB/HR** **X 8760 HRS/YR X TON/2000 LBS = 1350.5 TPY**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Rule**		
2. Future Effective Date of Allowable Emissions: **NA**		
3. Requested Allowable Emissions and Units: **4.0 lb /Ton Acid**		
4. Equivalent Allowable Emissions:	**308.3** lb/hour	**1350.5** Tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SAM - Sulfuric Acid Mist**		
2. Total Percent Efficiency of Control:		**99** %
3. Potential Emissions:	**11.6** lb/hour	**50.6** tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____ tons/year	
6. Emission Factor: **0.15 LB/TON ACID** Reference: **Permit**		
7. Emissions Method Code: [X] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **SAM = 0.15 LB/TON X 1850 TPD / 24 HRS/DAY = 11.6 LB/HR** **X 8760 HRS/YR X TON/2000 LBS = 50.6 TPY**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section (1 of 3)

Allowable Emissions (Pollutant identified on front of page)

A.

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**		
4. Equivalent Allowable Emissions:	**11.6** lb/hour	**50.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

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: 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): **40 CFR 60, SUBPART H**

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System: Continuous Monitor __1__of__1____

1. Parameter Code: **EM**	2. Pollutant(s): **SO2**
3. CMS Requirement:	[**X**] Rule [ ] Other
4. Monitor Information: Manufacturer: **DUPONT** Model Number: **400**	Serial Number: **3996**
5. Installation Date: **3/75**	
6. Performance Specification Test Date: **11/82**	
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 60, SUBPART H**	

Continuous Monitoring System: Continuous Monitor _____ of _____

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

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[**X**] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**			
PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown
4. Baseline Emissions: **See Report**			
PM		lb/hour	tons/year
SO2		lb/hour	tons/year
NO2			tons/year
5. PSD Comment (limit to 200 characters): **Reallocation of allowable emissions from previous PSD evaluation.**			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [**X**] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [**X**] Not Applicable

12. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [**X**] Not Applicable

13. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [**X**] Not Applicable

14. Acid Rain 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:_____

[**X**] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[**X**] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[**X**] 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).

[ ] 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.

[ ] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Sulfuric Acid Plant No. 5**		
2. Emissions Unit Identification Number: **005** [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **28**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters): **Double Absorption**
2. Control Device or Method Code: **044**

B.

1. Description (limit to 200 characters): **Mist Eliminators**
2. Control Device or Method Code: **014**

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date: **NA**			
2. Long-term Reserve Shutdown Date: **NA**			
3. Package Unit: **NA** Manufacturer:		Model Number:	
4. Generator Nameplate Rating:	**38**	MW	
5. Incinerator Information: **NA** Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:			°F seconds °F

Emissions Unit Operating Capacity

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: **2400 TPD 100% H2SO4**		
5. Operating Capacity Comment (limit to 200 characters): **Requested permit limit.**		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
	24 hours/day		**7** days/week
	52 weeks/year		**8760** hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

N/A

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

DEP Core List, See Page 12.	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sulfuric Acid Plant No. 5**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions 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: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W	
6. Stack Height:	**150** feet
7. Exit Diameter:	**8** feet
8. Exit Temperature:	**180** °F

9. Actual Volumetric Flow Rate:	**114,000** acfm
10. Percent Water Vapor : **NA**	%
11. Maximum Dry Standard Flow Rate: **NA**	dscfm
12. Nonstack Emission Point Height: **NA**	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment _1_of_1_

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Sulfuric Acid Production**	
2. Source Classification Code (SCC): **3-01-023-04**	
3. SCC Units: **Tons 100% H2SO4**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **876,000**
6. Estimated Annual Activity Factor: **NA**	
7. Maximum Percent Sulfur: **NA**	8. Maximum Percent Ash: **NA**
9. Million Btu per SCC Unit: **NA**	
10. Segment Comment (limit to 200 characters): **Hourly rate is based on 2,400 TPD of 100% H2SO4.**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	**044**	**044**	**EL**
SAM	**044**	**014**	**EL**
NOx	**000**	**000**	**NS**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**

2. Total Percent Efficiency of Control: **99.7 %**

3. Potential Emissions: **400.0** lb/hour **1752.0** tons/year

4. Synthetically Limited?
   [ ] Yes [**X**] No

5. Range of Estimated Fugitive/Other Emissions:
   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year

6. Emission Factor: **4.0 LB/TON ACID**
   Reference: **Permit**

7. Emissions Method Code:
   [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

SO2 = 4.0 LB/TON X 2400 TPD / 24 HRS/DAY = 400.0 LB/HR
X 8760 HRS/YR X TON/2000 LBS = 1752.0 TPY

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Rule**		
2. Future Effective Date of Allowable Emissions: **NA**		
3. Requested Allowable Emissions and Units: **4.0 lb / Ton Produced**		
4. Equivalent Allowable Emissions:	**400.0** lb/hour	**1752.0** Tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SAM**		
2. Total Percent Efficiency of Control:		**99** %
3. Potential Emissions:	**15.0** lb/hour	**65.7** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3	_____ to _____	tons/year
6. Emission Factor: **0.15 LB/TON ACID** Reference: **Permit**		
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **SAM = 0.15 LB/TON X 2400 TPD / 24 HRS/DAY = 15.0 LB/HR** **X 8760 HRS/YR X TON/2000 LBS = 65.7 TPY**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Allowable Emissions (Pollutant identified on front of page)

A.

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 Produced**		
4. Equivalent Allowable Emissions:	**15.0** lb/hour	**65.7** Tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

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: 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):

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code: **EM**	2. Pollutant(s): **SO2**
3. CMS Requirement:	[**X**] Rule [ ] Other
4. Monitor Information: Manufacturer: **DUPONT** Model Number: **460**	Serial Number: **7345**
5. Installation Date: **12/90**	
6. Performance Specification Test Date: **6/91**	
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 60, SUBPART H**	

Continuous Monitoring System: Continuous Monitor _____ of _____

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

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[**X**] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**			
PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown
4. Baseline Emissions: **See Report**			
PM		lb/hour	tons/year
SO2		lb/hour	tons/year
NO2			tons/year
5. PSD Comment (limit to 200 characters): **Reallocation of allowable emissions from previous PSD evaluation.**			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [**X**] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [**X**] Not Applicable

12. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [**X**] Not Applicable

13. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [**X**] Not Applicable

14. Acid Rain 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:_____

[**X**] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[**X**] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[**X**] 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).

[ ] 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.

[ ] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Sulfuric Acid Plant No. 6**		
2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: **C**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **28**
6. Emissions Unit Comment (limit to 500 characters): **Proposed new plant to replace existing No. 3 sulfuric acid plant.**		

Emissions Unit Control Equipment

A.

1. Description (limit to 200 characters): **Double Absorption**
2. Control Device or Method Code: **044**

B.

1. Description (limit to 200 characters): **Mist Eliminators**
2. Control Device or Method Code: **014**

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date: **NA**		
2. Long-term Reserve Shutdown Date: **NA**		
3. Package Unit: **NA** Manufacturer:	Model Number:	
4. Generator Nameplate Rating: **NA**	MW	
5. Incinerator Information: **NA** Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:		°F seconds °F

Emissions Unit Operating Capacity

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: **2750 TPD 100% H2SO4**		
5. Operating Capacity Comment (limit to 200 characters): **Requested permit limit.**		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:		
	24 hours/day	**7** days/week
	52 weeks/year	**8760** hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

N/A

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

DEP Core List, See Page 12.	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sulfuric Acid Plant No. 6**	
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions 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: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W	
6. Stack Height:	**150** feet
7. Exit Diameter:	**9** feet
8. Exit Temperature:	**180** °F

9. Actual Volumetric Flow Rate:	**133,000** acfm
10. Percent Water Vapor : **NA**	%
11. Maximum Dry Standard Flow Rate: **NA**	dscfm
12. Nonstack Emission Point Height: **NA**	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment __1__of__1__

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Sulfuric Acid Production**	
2. Source Classification Code (SCC): **3-01-023-04**	
3. SCC Units: **Tons 100% H2SO4**	
4. Maximum Hourly Rate: **114.6**	5. Maximum Annual Rate: **1,003,750**
6. Estimated Annual Activity Factor: **NA**	
7. Maximum Percent Sulfur: **NA**	8. Maximum Percent Ash: **NA**
9. Million Btu per SCC Unit: **NA**	
10. Segment Comment (limit to 200 characters): **Hourly rate is based on 2,750 TPD of 100%H2SO4.**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2	**044**	**044**	**EL**
SAM	**044**	**014**	**EL**
NOx	**000**	**000**	**NS**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**

2. Total Percent Efficiency of Control: **99.7 %**

3. Potential Emissions: **458.3** lb/hour **2007.5** tons/year

4. Synthetically Limited?
   [ ] Yes [**X**] No

5. Range of Estimated Fugitive/Other Emissions:
   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year

6. Emission Factor: **4.0 LB/TON ACID**
   Reference: **Permit**

7. Emissions Method Code:
   [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   SO2 = 4.0 LB/TON X 2750 TPD / 24 HRS/DAY = 458.3 LB/HR
   X 8760 HRS/YR X TON/2000 LBS = 2007.5 TPY

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section (3 of 3)

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: **Rule**		
2. Future Effective Date of Allowable Emissions: **NA**		
3. Requested Allowable Emissions and Units: **4.0 lb / Ton Produced**		
4. Equivalent Allowable Emissions:	**458.3** lb/hour	**2007.5** Tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SAM**		
2. Total Percent Efficiency of Control:		**99 %**
3. Potential Emissions:	**17.2** lb/hour	**75.3** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No		
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year		
6. Emission Factor: **0.15 LB/TON ACID** Reference: **Permit**		
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5		
8. Calculation of Emissions (limit to 600 characters): **SAM = 0.15 LB/TON X 2750 TPD / 24 HRS/DAY = 17.2 LB/HR** **X 8760 HRS/YR X TON/2000 LBS = 75.3 TPY**		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section (3 of 3)

Allowable Emissions (Pollutant identified on front of page)

A.

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 Produced**		
4. Equivalent Allowable Emissions:	**17.2** lb/hour	**75.3** Tons/year
5. Method of Compliance (limit to 60 characters): **EPA METHOD 8**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **40 CFR 60, SUBPART H**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

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: 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): **40 CFR 60, SUBPART H**

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

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

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code: **EM**	2. Pollutant(s): **SO2**
3. CMS Requirement:	[**X**] Rule [ ] Other
4. Monitor Information: **To Be Decided** Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 60, SUBPART H**	

Continuous Monitoring System: Continuous Monitor _____ of _____

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

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[**X**] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**

PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions: **See Report**

PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment (limit to 200 characters):

Reallocation of allowable emissions from previous PSD evaluation.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Emissions Unit Information Section (3 of 3)

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [**X**] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [**X**] Not Applicable

12. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [**X**] Not Applicable

13. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [**X**] Not Applicable

14. Acid Rain 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:_____

[**X**] Not Applicable

SUPPLEMENTAL INFORMATION - REPORT

1.0 PROJECT DESCRIPTION

Farmland Hydro, L.P. (Farmland), Green Bay Complex, consists of a phosphate chemical fertilizer manufacturing facility approximately six miles southwest of Bartow, Florida, on State Road 640 in Polk County. The UTM coordinates of Farmland's sulfuric acid manufacturing complex are Zone 17, 410.3 km east and 3079.7 km north.

Farmland proposes to redistribute the allowable sulfuric acid production rate and maintain the current facility-wide sulfuric acid production cap of 7000 tpd 100% H_2SO_4. Farmland proposes to replace Sulfuric Acid Plant No. 3 with a new, more efficient sulfuric acid plant No. 6 with a production rate of 2,750 tons per day (tpd) 100% sulfuric acid. Please refer to Table 1-1 for proposed production and emissions rates. The proposed plant will be similar in design to the existing No. 5 double absorption plant. The site location map, plant layout map and process flow diagram are presented in Figures 1-1, 1-2 and 1-3, respectively.

There will be no change in the molten sulfur handling rates as it is permitted to handle the production of 7000 tons per day of 100% sulfuric acid. No other plant at the facility is affected by the redistribution of the sulfuric acid production rates.

The sulfuric acid production capacity is currently permitted under an existing permit PSD-FL-225 and AC 53-265755, with federally enforceable production and emissions caps. The proposed project will not be subject to New Source Review requirements pursuant to Rule 62-212, Florida Administrative Code (FAC). Also attached, for clarification, is FDEP's memorandum dated August 21, 1997, referring to the use of the "potential to emit" for new or modified units. Consequently, a permit amendment is requested to allow the redistribution of the currently allowed sulfuric acid production rates and emissions rates.

Sulfuric Acid Plant No. 6 will be subject to NSPS pursuant to 40CFR60, Subpart H, and the corresponding state rule.

As FDEP is concerned about sulfur dioxide impacts in this area and the Class I area, air dispersion modeling for sulfur dioxide was conducted to provide reasonable assurance that the proposed project will not cause or contribute to any exceedances of the ambient air quality standards.

TABLE 1-1

PRODUCTION AND EMISSIONS RATES
FOR SULFURIC ACID PLANTS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Emission Unit	PRODUCTION RATE TPD	ALLOWABLE EMISSIONS RATES SO2 TPY	SAM TPY
Existing			
SAP3	2100	1533	57.5
SAP4	2100	1533	57.5
SAP5	2800	2044	76.7
SAP6	NA	0	0
TOTAL	7000	5110	191.7
Proposed			
SAP3	NA	0	0
SAP4	1850	1350.5	50.7
SAP5	2400	1752.0	65.7
SAP6	2750	2007.5	75.3
TOTAL	7000	5110.0	191.7

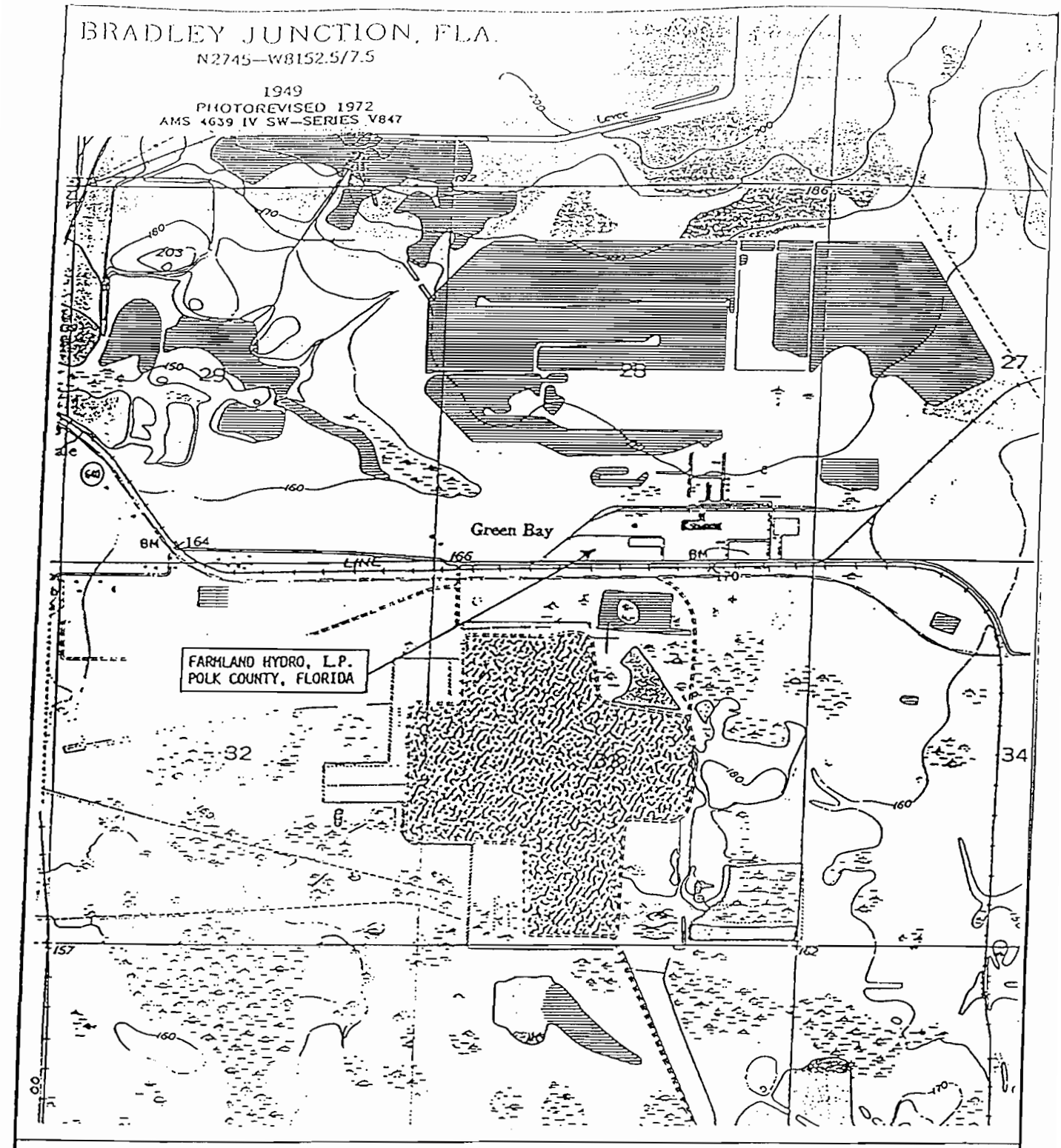
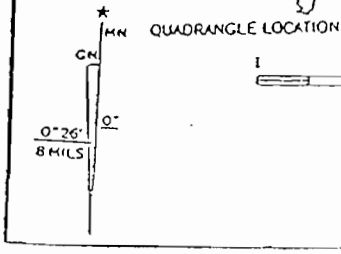


FIGURE 1-1

SITE LOCATION MAP



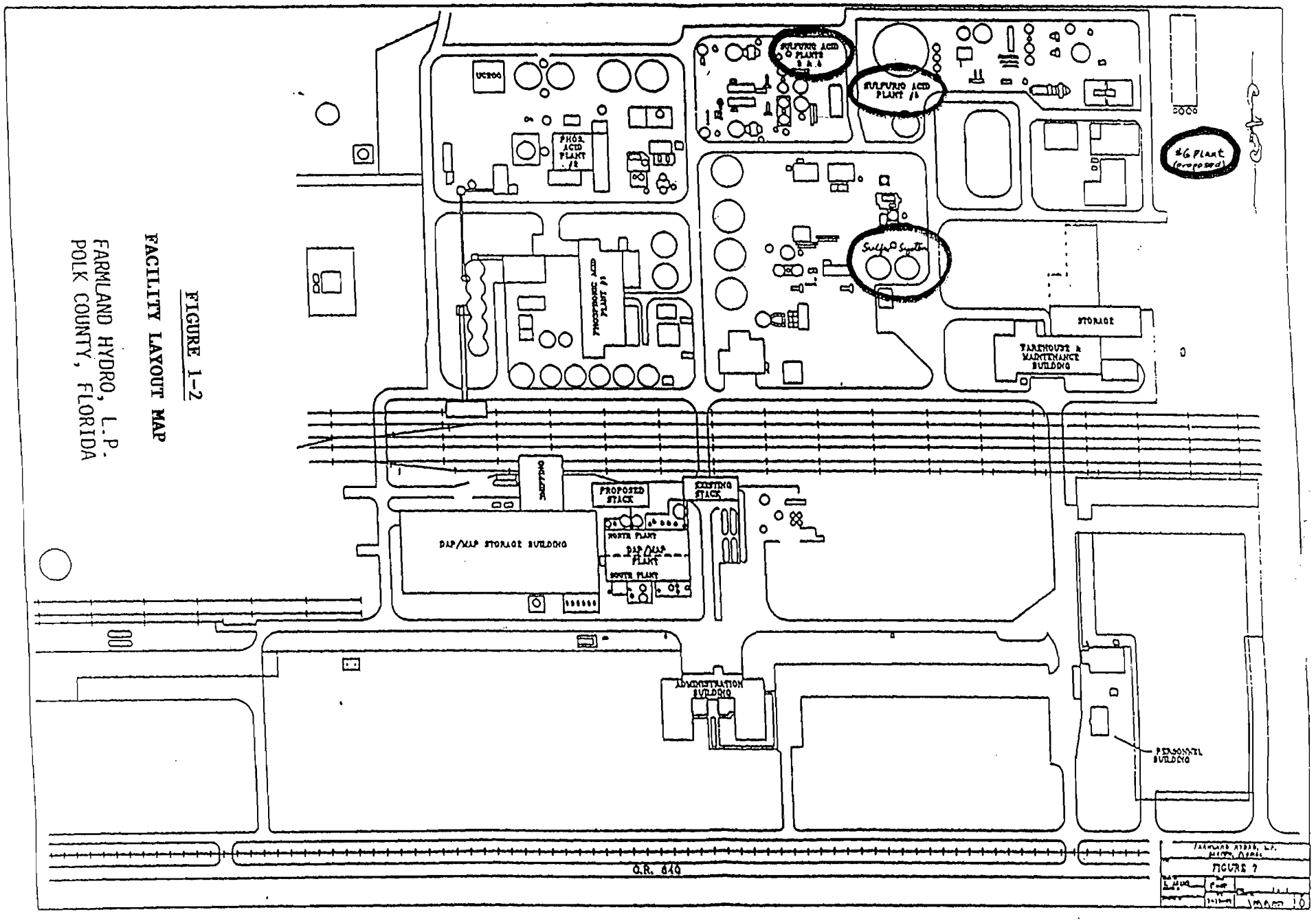


FIGURE 1-2

FACILITY LAYOUT MAP

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

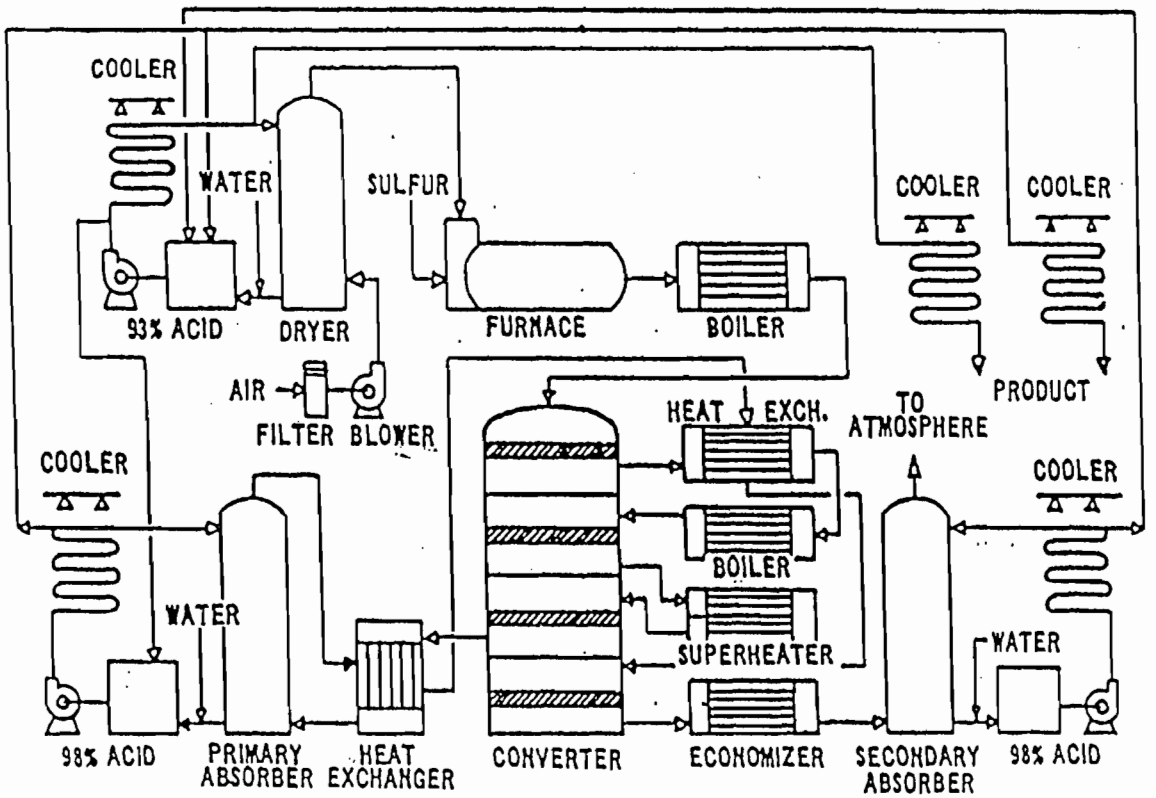


FIGURE 1-3

TYPICAL SULFURIC ACID
DOUBLE ABSORPTION PLANT
PROCESS FLOW DIAGRAM

$S + O_2 \rightarrow SO_2$ (BURNER)

$SO_2 + \frac{1}{2} O_2 \rightleftharpoons SO_3$ (CONVERTER)

$SO_3 + H_2O \rightarrow H_2SO_4$ (ABSORBER)

2.0 Ambient Air Quality Impact Analysis

The sulfur dioxide emissions from the proposed project were modeled using the ISC-ST3 model, in accordance with EPA modeling guidelines.

A significant impact analysis was conducted using five consecutive years of Tampa meteorological data (1987-1991). The existing sulfuric acid plants' emissions were compared with the proposed sulfuric acid plants' emissions. The modeling inputs are presented in Table 2-1.

Results of the significant impact analysis (SIA) modeling are presented in Table 2-2. The modeling results indicated that the maximum predicted impacts resulting from the proposed project will be significant in the vicinity of the plant; and, less than significant at the nearest Class I area (Chassahowitzka National wildlife Refuge). Therefore, additional refined modeling was necessary for the Class II area.

The refined modeling was conducted including significant sources in the vicinity of the plant. A list of the significant facilities near the proposed project is presented in Table 2-3. The corresponding sources at the significant facilities which 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.

The results of the ambient air quality standard and Class II area PSD increment analysis indicate that the maximum predicted impacts from the proposed project are well within the standards, as shown in Table 2-6.

Receptor locations associated with the above modeling are presented in Figures 2-1.1 - 2-1.5.

It can be concluded from the information in this report that the proposed project, as described herein, will not cause or significantly contribute to an exceedance of the allowable sulfur dioxide ambient air quality standard, allowable PSD increment, or any other provision of Chapter 62, FAC.

TABLE 2-1

AIR QUALITY MODELING PARAMETERS
FOR SULFUR DIOXIDE

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Emission Unit	Stack Ht (m)	Stack Dia (m)	Stack Gas Vel (mps)	Stack Gas Temp (°K)	SO2 Emission Rates (g/s)
Existing					
SAP3	30.48	2.29	12.02	355	44.1
SAP4	30.48	2.29	12.02	355	44.1
SAP5	45.72	2.44	13.42	355	58.8
SAP6	NA				0
Proposed					
SAP3	NA				0
SAP4	30.48	2.29	12.02	355	38.85
SAP5	45.72	2.44	13.42	355	50.40
SAP6	45.72	2.44	13.42	355	57.75

NOTES:

1. Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

2. The proposed No. 6 plant will replace the existing No. 3 plant.

TABLE 2-2

SUMMARY OF SULFUR DIOXIDE SIGNIFICANT IMPACT ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

METEOROLOGICAL DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)					
	CLASS I AREA			CLASS II AREA		
	ANNUAL(1)	3-HR(2)	24-HR(2)	ANNUAL(1)	3-HR(2)	24-HR(2)
1987	0	0.003	0.001	2.08	227.6	47.9
1988	0	0.006	0.001	3.62	171.0	65.3
1989	0	0.007	0.001	3.65	169.6	70.2
1990	0	0.003	0.001	1.40	169.6	45.8
1991	0	0.063	0.001	2.36	157.6	45.3
Significant Impact (Proposed for Class I)	0.03	1.0	0.2	1.0	25.0	5.0

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) The impacts are based on the difference between the existing and proposed SO2 emissions from the sulfuric acid plants.

Table 2-3
Significant Sulfur Dioxide Emitting Facilities (20 D Table)
Farmland Hydro, L.P.
Green Bay, Florida

SO2 "20 D" SOURCE INVENTORY FOR FARMLAND HYDRO PLANT			Source Location	410.330	3079.655
	UTM Coordinates (km)		SO2	Distance	20-D Emission
SOURCE DESCRIPTION	EAST	NORTH	TPY	(Km)	(TPY)
AUBURNDALE	420.800	3103.300	221	26	517
BORDEN DRYER	414.500	3109.000	-184	30	593
BORDEN DRYER	394.800	3069.600	-225	19	370
BREWSTER/IMPERIAL	404.800	3069.500	-670	12	231
CARGILL/GARDINIER	363.400	3082.400	5870	47	940
CARGILL/GARDINIER MINE	415.300	3063.300	612	17	342
CARGILL/SEMINOLE/W.R. GRACE	409.770	3086.990	5007	7	147
CF BARTOW	408.500	3082.500	5145	3	68
CF PLANT CITY	388.000	3116.000	9048	43	853
CITRUS WORLD	441.000	3087.300	1604	32	632
CLM CHLORIDE METALS	361.800	3088.300	731	49	986
CONSOLIDATED MINERALS	393.800	3096.300	943	23	469
COUCH CONST-ZEPHYRHILLS	390.300	3129.400	123	54	1073
DOLIME	404.813	3069.548	-355	12	230
ESTECH/SWIFT	411.500	3074.200	-4856	6	112
FARMLAND	410.330	3079.655	5208	0	0
FPC INTERSESSION CITY	446.300	3126.000	8168	59	1173
FPC OSCEOLA	446.300	3126.000	4380	59	1173
FPC POLK	414.400	3073.910	1720	7	141
FPL MANATEE	367.200	3054.100	83410	50	1003
GEN. PORT. CEMENT	358.000	3090.600	-4602	53	1069
GULF COAST RECYCLING	364.000	3093.500	1711	48	967
HARDEE	404.800	3057.400	9657	23	459
HILLS. CO. RESOURCE RECOVERY	368.200	3092.700	744	44	882
IMC - AGRICO /NICHOLS/CONSERVE	398.400	3084.200	1978	13	255
IMC-AGRICO/NEW WALES	396.600	3078.900	11416	14	275
IMC-AGRICO/NORALYN	414.700	3080.300	504	4	88
IMC-AGRICO/PIERCE	404.100	3078.950	-1646	6	125
IMC-AGRICO/SO. PIERCE	407.500	3071.300	4676	9	176
LAKELAND LARSEN	409.300	3102.800	4944	23	463
LAKELAND MCINTOSH	409.200	3106.200	30563	27	531
MOBIL BIG-4	394.850	3069.770	87	18	367
MOBIL NICHOLS	398.300	3084.300	971	13	258
MOBILE ELECTROPHOS	405.600	3079.400	-3337	5	95
MULBERRY COGENERATION	413.600	3080.600	466	3	68
MULBERRY PROSPHATES/ROYSTER	406.700	3085.200	1280	7	133
NITRAM	363.100	3089.000	108	48	963
PANDA KATHLEEN	398.700	3101.400	25	25	493
RIDGE COGENERATION	416.700	3100.400	480	22	434
SECI HARDEE	404.900	3057.400	223	23	458
SULFUR TERMINALS	358.000	3090.000	104	53	1067
TAMPA GENERAL HOSP	356.400	3091.000	59	55	1102
TAMPA MCKAY BAY RRF	360.000	3091.000	744	52	1032
TECO BIG BEND	361.900	3075.000	372294	49	973
TECO GANNON	360.000	3087.500	127495	51	1019
TECO HOOKERS POINT	358.000	3091.000	13535	54	1071
TECO POLK POWER	402.488	3066.914	4031	15	299
THATCHER GLASS	361.800	3088.300	177	49	986
USS AGRI-CHEM BARTOW	413.200	3086.300	-1580	7	145
USSAC FT MEADE	416.120	3068.620	3217	12	249

NOTE: Facilities with negative emissions represent shutdown facilities.

Table 2-4

AAQS SO2 Source Inventory
Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	Inventory Designation	NAAQS Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinat EAST	Stack Centered Coordinat NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
CARGILL/GARDINIER NaSiF MFG (U41)	NAAQS	CARG1	363.4	3082.4	-46930	2745	0.16	12.2	333.1	13.37	2.8
CARGILL/GARDINIER DAP (U55)	NAAQS	CARG2	363.4	3082.4	-46930	2745	0.96	40.5	320	16.09	2.13
CARGILL/GARDINIER GTSP (UAA)	NAAQS	CARG3	363.4	3082.4	-46930	2745	1.9	38.4	328	11.56	2.44
CARGILL/GARDINIER MINE ROCK DRYER	NAAQS	CARG4	415.3	3063.3	4970	-16355	17.6	19.2	290	7	2.9
CARGILL/GARDINIER SAP #7 (U04)	NAAQS	CARG5	363.4	3082.4	-46930	2745	46.2	45.6	340	12.64	2.29
CARGILL/GARDINIER SAP #8 (U05)	NAAQS	CARG6	363.4	3082.4	-46930	2745	52.5	45.6	339	13.93	2.44
CARGILL/GARDINIER SAP #9 (INCR9 OF8/9	BOTH	CARG7	363.4	3082.4	-46930	2745	67.2	45.6	350	12.66	2.74
CARGILL/SEMINOLE/W.R. GRACE DAP 4 - Ba	NAAQS	CARG8	409.8	3087.0	-560	7335	0.3	40.2	316	26.2	2.1
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5	BOTH	CARG9	409.8	3087.0	-560	7335	143.64	60.96	347	34	1.52
CF BARTOW DAP 1-3	NAAQS	CFB1	408.5	3082.5	-1830	2845	7.93	36.4	339	16.11	2.13
CF BARTOW DAP 1-3	BOTH	CFB2	408.5	3082.5	-1830	2845	3.97	36.4	339	16.11	2.13
CF BARTOW H2SO4 5 (2400 TPD)	BOTH	CFB3	408.5	3082.5	-1830	2845	50.4	63.41	361	10.88	2.13
CF BARTOW H2SO4 6 (2400 TPD)	BOTH	CFB4	408.5	3082.5	-1830	2845	50.4	63.41	370	7.28	2.13
CF BARTOW H2SO4 7 (2000 TPD)	BOTH	CFB5	408.5	3082.5	-1830	2845	42	67.1	351	9.8	2.4
CF PLANT CITY (U22)	NAAQS	CFP1	388.0	3116.0	-22330	36345	0.12	2.44	373	0.33	0.61
CF PLANT CITY (U22)	NAAQS	CFP2	388.0	3116.0	-22330	36345	0.11	2.4	373.1	1.63	0.27
CF PLANT CITY (U23-24)	NAAQS	CFP3	388.0	3116.0	-22330	36345	0.17	3.7	373.1	1.65	0.09
CF PLANT CITY DAP A (U10)	NAAQS	CFP4	388.0	3116.0	-22330	36345	3	28.7	326	7.9	3
CF PLANT CITY DAP X (U16)	NAAQS	CFP5	388.0	3116.0	-22330	36345	13.2	54.9	325	9.8	2.8
CF PLANT CITY DAP Z (U11)	NAAQS	CFP6	388.0	3116.0	-22330	36345	13.2	54.9	331	13.1	2.8
CF PLANT CITY GTSP X (U12)	NAAQS	CFP7	388.0	3116.0	-22330	36345	13.2	54.9	314	7.9	2.8
CF PLANT CITY H2SO4 A&B (U02&03)	BOTH	CFP8	388.0	3116.0	-22330	36345	88.2	33.5	316	19.5	1.52
CF PLANT CITY PROPOSED C & D (U07-08)	BOTH	CFP9	388.0	3116.0	-22330	36345	109.2	60.35	353	17.77	2.44
CF PLANT CITY Y-GTSP (U17)	NAAQS	CFP10	388.0	3116.0	-22330	36345	11.33	54.9	333.1	13.37	2.8
CF PLANT CITY Zephyrhills (U01)	NAAQS	CFP11	388.0	3116.0	-22330	36345	19.98	7.62	560.8	17.74	1.07
CITRUS WORLD DRYER 1	NAAQS	CITRUS1	441.0	3087.3	30670	7645	11.8	22.9	323	10.7	1
CITRUS WORLD DRYER 2	NAAQS	CITRUS2	441.0	3087.3	30670	7645	23.74	22.9	325	12.2	0.8
CITRUS WORLD DRYER 3	NAAQS	CITRUS3	441.0	3087.3	30670	7645	23.74	24.4	313	21.9	0.8
CONSOLIDATED MINERALS	NAAQS	CONSOL1	393.8	3096.3	-16530	16645	0.12	6.1	605.2	20.21	0.37
CONSOLIDATED MINERALS FLUID BED REACTOR	NAAQS	CONSOL2	393.8	3096.3	-16530	16645	11.57	46.33	299.7	12.14	1.77
CONSOLIDATED MINERALS KILNS 3, 4 & 5	NAAQS	CONSOL3	393.8	3096.3	-16530	16645	15.43	46.33	298	13.17	1.77
FARMLAND	NAAQS	FARM1	410.3	3079.7	0	0	2.33	28.96	605.2	3.58	1.68
FARMLAND SULFUR SYSTEM (EXISTING)	NAAQS	FARM2	410.3	3079.7	0	0	0.39	12.19	366.3	2.67	0.61
FARMLAND SULFUR SYSTEM (PROPOSED)	NAAQS	FARM3	410.3	3079.7	0	0	0.16	12.19	366.3	2.67	0.61
FPC BARTOW PEAKING 1-4	NAAQS	FPC1	342.4	3082.6	-67930	2945	192.89	13.7	772	22.3	5.3
FPC BARTOW PIPELINE HEATER (U04)	NAAQS	FPC2	342.4	3082.6	-67930	2945	1.8	9.1	541	5.2	0.9
FPC BARTOW UNIT 1 & 2 (U01&02)	NAAQS	FPC3	342.4	3082.6	-67930	2945	896.8	91.4	429	36.3	2.7
FPC BARTOW UNIT 3 (U03)	NAAQS	FPC4	342.4	3082.6	-67930	2945	710.54	91.4	408	34.4	3.4

Continued

AAQS SO2 Source Inventory

Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	Inventory Designation	NAAQS Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinat EAST	Stack Centered Coordinat NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
FPC BAYBORO PEAKING 1-4	NAAQS	FPC5	338.8	3071.3	-71530	-8355	197.8	12.2	755	6.4	7
FPC INT. CITY PROP TURBINES/7EA @ 20°F	BOTH	FPC6	446.3	3126.0	35970	46345	124.4	15.24	819.8	56.21	4.21
FPC INT. CITY PROP TURBINES/7FA @20°F	BOTH	FPC7	446.3	3126.0	35970	46345	110.4	15.24	880.8	32.07	7.04
FPC OSCEOLA PEAKING 1-6	NAAQS	FPC8	446.3	3126.0	35970	46345	273.06	7.9	703.7	18.06	4.24
FPC OSCEOLA PEAKING 11-12	BOTH	FPC9	446.3	3126.0	35970	46345	102.56	15.2	895.9	0.03	7.04
FPC OSCEOLA PEAKING 7-10	BOTH	FPC10	446.3	3126.0	35970	46345	111.88	15.2	834.8	0.05	4.21
FPC POLK	BOTH	FPC11	414.4	3073.9	4070	-5745	24.7	34.4	400	40.5	4.1
FPL MANATEE UNIT 1 & 2 (U01&02)	NAAQS	FPL1	367.2	3054.1	-43130	-25555	2397.8	152.1	426	17.1	8
GULF COAST LEAD	NAAQS	GULF1	364.0	3093.5	-46330	13845	0.75	8.84	309.1	20.85	0.34
GULF COAST LEAD (U01)	NAAQS	GULF2	364.0	3093.5	-46330	13845	48.45	29.57	344.1	37.59	0.61
HARDEE	BOTH	HARDEE1	404.8	3057.4	-5530	-22255	277.6	22.9	389	23.9	4.88
IMC-AGRICO /NICHOLS/CONSERVE (2500 TP	BOTH	IMC1	398.4	3084.2	-11930	4545	52.5	45.7	352	12	2.3
IMC-AGRICO /NICHOLS/CONSERVE DAP DRYE	NAAQS	IMC2	398.4	3084.2	-11930	4545	1.01	24.4	333	23.1	1.07
IMC-AGRICO /NICHOLS/CONSERVE DRYER	NAAQS	IMC3	398.4	3084.2	-11930	4545	3.34	24.69	327.4	3.77	2.29
IMC-AGRICO/NEW WALES AFI PLANT	BOTH	IMC4	396.6	3078.9	-13730	-755	0.2	52.4	322	13.1	2.4
IMC-AGRICO/NEW WALES DAP	BOTH	IMC5	396.6	3078.9	-13730	-755	5.54	36.6	319.1	20.15	1.83
IMC-AGRICO/NEW WALES DAP 1	NAAQS	IMC6	396.7	3079.4	-13630	-255	3.7	40.5	314	14.9	2.1
IMC-AGRICO/NEW WALES GTSP	NAAQS	IMC7	396.7	3079.4	-13630	-255	9.2	40.5	316	20.4	1.8
IMC-AGRICO/NEW WALES MULTIPHOS	BOTH	IMC8	396.6	3078.9	-13730	-755	4.8	52.4	314	15.8	1.4
IMC-AGRICO/NEW WALES SAP #1, 2, 3 (3	BOTH	IMC9	396.6	3078.9	-13730	-755	182.85	61	350	15.31	2.6
IMC-AGRICO/NEW WALES SAP #4, 5 (2 AT	BOTH	IMC10	396.6	3078.9	-13730	-755	121.9	60.7	350	15.31	2.6
IMC-AGRICO/NORALYN	NAAQS	IMC11	414.7	3080.3	4370	645	1.2	23.2	394	17.1	2
IMC-AGRICO/NORALYN	NAAQS	IMC12	414.7	3080.3	4370	645	13.3	18.3	341	8.5	2.8
IMC-AGRICO/SO. PIERCE DAP PLANT	BOTH	IMC13	407.5	3071.3	-2830	-8325	4.41	38.1	328	14.6	3.1
IMC-AGRICO/SO. PIERCE GTSP PLANT	NAAQS	IMC14	407.5	3071.3	-2830	-8355	16.6	42.7	305	10.4	2.7
IMC-AGRICO/SO. PIERCE H2SO4 (2 @ 2700	BOTH	IMC15	407.5	3071.3	-2830	-8355	113.4	44.18	350	13.29	2.74
LAKELAND LARSEN	NAAQS	LAKE1	409.3	3102.8	-1030	23145	0.2	9.75	699.7	171.38	1.52
LAKELAND LARSEN 4	NAAQS	LAKE2	409.3	3102.8	-1030	23145	93.37	50.29	433	5.64	3.05
LAKELAND LARSEN 5	NAAQS	LAKE3	409.3	3102.8	-1030	23145	0.4	50.29	444.1	6.47	3.05
LAKELAND LARSEN 6	NAAQS	LAKE4	409.3	3102.8	-1030	23145	0.35	50.29	444.1	6.47	3.05
LAKELAND LARSEN 7	NAAQS	LAKE5	409.3	3102.8	-1030	23145	18.71	50.29	444.1	6.86	3.05
LAKELAND LARSEN CT	BOTH	LAKE6	409.3	3102.8	-1030	23145	29.11	30.48	783.2	28.22	5.79
LAKELAND MCINTOSH	NAAQS	LAKE7	409.2	3106.2	-1130	26545	8.32	10.97	791.3	0.39	2.8
LAKELAND MCINTOSH	NAAQS	LAKE8	409.2	3106.2	-1130	26545	2.94	6.1	652.4	23.54	0.79
LAKELAND MCINTOSH 1	NAAQS	LAKE9	409.3	3106.2	-1030	26545	341.56	45.72	419.1	23.96	2.74
LAKELAND MCINTOSH 2	NAAQS	LAKE10	409.2	3106.2	-1130	26545	25.68	47.55	402.4	21.29	3.17
LAKELAND MCINTOSH 3	BOTH	LAKE11	409.2	3106.2	-1130	26545	500.1	76.2	350	19.7	4.88
MOBIL NICHOLS DRYER 1	NAAQS	MOBIL1	398.3	3084.3	-12030	4645	12.73	25.9	342	14.1	2.29

Table 2-4
Concluded
AAQS SO2 Source Inventory
Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	Inventory Designation	NAAQS Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinate EAST	Stack Centered Coordinate NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
MOBIL NICHOLS DRYER 2	NAAQS	MOBIL2	398.3	3084.3	-12030	-4645	12.73	25.9	342	14.1	2.29
MOBIL NICHOLS DRYER 4	BOTH	MOBIL3	398.3	3084.3	-12030	4645	2.44	25.9	339	16.05	2.29
MULBERRY COGENERATION CT	BOTH	MULB1	413.6	3080.6	3270	945	13.4	38.1	377	9.31	1.98
MULBERRY PROSPHATES/ROYSTER (1700 TPD	BOTH	MULB2	406.7	3085.2	-3630	5545	35.7	61	360	12.2	2.13
MULBERRY PROSPHATES/ROYSTER DAP	NAAQS	MULB3	406.7	3085.2	-3630	5545	9.3	31.1	316	7.9	2.7
RIDGE COGENERATION	BOTH	RIDGE1	416.7	3100.4	6370	20745	13.8	99.1	350	14.54	3.05
TECO BIG BEND TURBINE 1 (U07)	NAAQS	TECO1	361.9	3075.0	-48430	-4655	11.3	10.7	816	136.2	1.5
TECO BIG BEND TURBINE 2&3 (U05&06)	NAAQS	TECO2	361.9	3075.0	-48430	-4655	79.12	22.86	770.8	18.74	4.27
TECO BIG BEND UNIT 1 (U01)	NAAQS	TECO3	361.9	3075.0	-48430	-4655	3309	149.35	404.7	13.74	7.32
TECO BIG BEND UNIT 2 (U02)	NAAQS	TECO4	361.9	3075.0	-48430	-4655	3275.32	149.35	404.7	13.02	7.32
TECO BIG BEND UNIT 3 (U03)	NAAQS	TECO5	361.9	3075.0	-48430	-4655	3372.92	149.35	410.2	14.47	7.32
TECO BIG BEND UNIT 4 (U04)	BOTH	TECO6	361.9	3075.0	-48430	-4655	654.7	149.4	342.2	19.81	7.32
TECO GANNON 1 & 2 (U01&02)	NAAQS	TECO7	360.0	3087.5	-50330	7845	760.86	93.27	420.8	30.85	3.05
TECO GANNON 3 (U03)	NAAQS	TECO8	360.0	3087.5	-50330	7845	483.96	93.27	419.7	38.64	3.23
TECO GANNON 4 (U04)	NAAQS	TECO9	360.0	3087.5	-50330	7845	567.71	93.27	426.9	22.97	3.05
TECO GANNON 5 (U05)	NAAQS	TECO10	360.0	3087.5	-50330	7845	691.28	93.27	423.6	23.18	4.45
TECO GANNON 6 (U06)	NAAQS	TECO11	360.0	3087.5	-50330	7845	1149.41	93.27	433	24.74	5.36
TECO GANNON TURBINE (U07)	NAAQS	TECO12	360.0	3087.5	-50330	7845	11.9	10.67	816.3	136.61	1.52
TECO HOOKERS POINT 1 & 2 (U01&02)	NAAQS	TECO13	358.0	3091.0	-52330	11345	82.6	85.3	419	6.1	3.4
TECO HOOKERS POINT 3 & 4 (U03&04)	NAAQS	TECO14	358.0	3091.0	-52330	11345	114	85.3	434	7.9	3.7
TECO HOOKERS POINT 5 (U05)	NAAQS	TECO15	358.0	3091.0	-52330	11345	84.6	85.3	448	11	3.4
TECO HOOKERS POINT 6 (U06)	NAAQS	TECO16	358.0	3091.0	-52330	11345	107.9	85.3	434	22.3	2.9
TECO POLK POWER	BOTH	TECO17	402.5	3067.0	-7842	-12701	5.42	22.86	812	27.43	5.49
TECO POLK POWER	BOTH	TECO18	402.5	3067.4	-7880	-12305	49.68	45.72	400	16.76	5.79
TECO POLK POWER	BOTH	TECO19	402.3	3067.5	-8002	-12183	8.2	60.7	1033	10.7	1.4
TECO POLK POWER	BOTH	TECO20	402.4	3067.3	-7910	-12335	0.3	6.1	533	13.1	0.91
TECO POLK POWER	BOTH	TECO21	402.0	3067.6	-8314	-12015	0.016	22.9	1000	20	1.2
TECO POLK POWER	BOTH	TECO22	402.3	3067.3	-8032	-12358	1.27	60.7	1033	9.1	1.1
TECO POLK POWER 4 CC	BOTH	TECO23	402.5	3067.2	-7880	-12439	17.6	45.72	389	16.15	4.42
TECO POLK POWER 5 CT	BOTH	TECO24	402.5	3066.9	-7842	-12741	33.4	22.86	785	31.39	5.49
USSAC FT MEADE H2SO4 1 & 2 (2200 TPD)	BOTH	USSAC1	416.1	3068.6	5790	-11035	92.48	53.4	355	10	2.59

Table 2-5

PSD Class 2 SO2 Source Inventory
Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	INVENTORY Designation	Modeling Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinate EAST	Stack Centered Coordinate NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
BREWSTER/IMPERIAL DRYER	PSD	BREW1	404.8	3069.5	-5530	-10155	-19.26	27.44	339	15.25	2.29
CARGILL/GARDINIER DRYER	PSD	CARG1	363.4	3082.4	-46930	2745	-28.89	20.73	310	13.12	1.07
CARGILL/GARDINIER SAP #4, 5, 6	PSD	CARG2	363.4	3082.4	-46930	2745	-187.7	22.6	363	7	1.52
CARGILL/GARDINIER SAP #7	PSD	CARG3	363.4	3082.4	-46930	2745	-26.25	45.6	340	12.64	2.29
CARGILL/GARDINIER SAP #8	PSD	CARG4	363.4	3082.4	-46930	2745	-41.16	45.6	339	13.93	2.44
CARGILL/GARDINIER SAP #9	PSD	CARG5	363.4	3082.4	-46930	2745	-54.6	45.6	350	10.3	2.74
CARGILL/GARDINIER SAP #9 (INCR IN9 OF8/9 U06)	BOTH	CARG6	363.4	3082.4	-46930	2745	67.2	45.6	350	12.66	2.74
CARGILL/SEMINOLE/W.R. GRACE DRYER	PSD	CARG7	409.77	3086.99	-560	7335	-39.66	15.24	327	17.32	2.04
CARGILL/SEMINOLE/W.R. GRACE SAP #1 & #2	PSD	CARG8	409.77	3086.99	-560	7335	-216	45.72	352	16.5	1.37
CARGILL/SEMINOLE/W.R. GRACE SAP #3	PSD	CARG9	409.77	3086.99	-560	7335	-52.5	45.72	311	16.7	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	PSD	CARG10	409.77	3086.99	-560	7335	-121.07	60.96	347	25.1	1.52
CARGILL/SEMINOLE/W.R. GRACE SAP 4, 5 & 6	BOTH	CARG11	409.77	3086.99	-560	7335	143.64	60.96	347	34	1.52
CF BARTOW DAP 1-3	BOTH	CFB1	408.5	3082.5	-1830	2845	3.97	36.4	339	16.11	2.13
CF BARTOW H2SO4 1 (400 TPD)	PSD	CFB2	408.5	3082.5	-1830	2845	-60.9	30.49	350	12.2	1.37
CF BARTOW H2SO4 2 (500 TPD)	PSD	CFB3	408.5	3082.5	-1830	2845	-110.25	30.49	350	10.37	1.68
CF BARTOW H2SO4 3 (600 TPD)	PSD	CFB4	408.5	3082.5	-1830	2845	-107.1	30.49	364	4.27	2.74
CF BARTOW H2SO4 4 (900 TPD)	PSD	CFB5	408.5	3082.5	-1830	2845	-174.83	30.49	358	7.93	2.13
CF BARTOW H2SO4 5 (2400 TPD)	BOTH	CFB6	408.5	3082.5	-1830	2845	50.4	63.41	361	10.88	2.13
CF BARTOW H2SO4 5 (900 TPD)	PSD	CFB7	408.5	3082.5	-1830	2845	-226.8	63.41	358	10.67	2.13
CF BARTOW H2SO4 6 (2400 TPD)	BOTH	CFB8	408.5	3082.5	-1830	2845	50.4	63.41	370	7.28	2.13
CF BARTOW H2SO4 6 (900 TPD)	PSD	CFB9	408.5	3082.5	-1830	2845	-170.1	63.41	359	10.37	2.13
CF BARTOW H2SO4 7 (2000 TPD)	BOTH	CFB10	408.5	3082.5	-1830	2845	42	67.1	351	9.8	2.4
CF PLANT CITY BASELINE A & B	PSD	CFP1	388	3116	-22330	36345	-105	23.8	316	18.8	1.52
CF PLANT CITY BASELINE C & D	PSD	CFP2	388	3116	-22330	36345	-100.8	60.35	353	16.4	2.44
CF PLANT CITY H2SO4 A&B (U02&03)	BOTH	CFP3	388	3116	-22330	36345	88.2	33.5	316	19.5	1.52
CF PLANT CITY PROPOSED C & D (U07-08)	BOTH	CFP4	386	3116	-22330	36345	109.2	60.35	353	17.77	2.44
DOLIME BOILER	PSD	DOLIME1	404.813	3069.548	-5517	-10107	-4.52	27.43	494.1	7.25	0.61
DOLIME DRYER	PSD	DOLIME2	404.813	3069.548	-5517	-10107	-5.68	27.43	333	20.67	1.52
ESTECH/SWIFT DRYER	PSD	ESTE1	411.5	3074.2	1170	-5455	-23.94	18.29	339	8.47	2.95
ESTECH/SWIFT DRYER	PSD	ESTE2	411.5	3074.2	1170	-5455	-22.8	18.75	340	5.06	2.95
ESTECH/SWIFT SAP (610 TPD & 29 LB/Ton)	PSD	ESTE3	411.5	3074.2	1170	-5455	-92.87	30.79	358	3.9	2.13
FARMLAND 1, 2 H2SO4	PSD	FARM1	410.33	3079.655	0	0	-83.98	30.48	311	20.18	1.37
FPC INT. CITY PROP TURBINES/7EA AT 20 DEG F	BOTH	FPC1	446.3	3126	35970	46345	124.4	15.24	819.8	56.21	4.21
FPC INT. CITY PROP TURBINES/7FA AT 20 DEG F	BOTH	FPC2	446.3	3126	35970	46345	110.4	15.24	880.8	32.07	7.04
FPC OSCEOLA PEAKING 11-12	BOTH	FPC3	446.3	3126	35970	46345	102.56	15.2	895.9	0.03	7.04
FPC OSCEOLA PEAKING 7-10	BOTH	FPC4	446.3	3126	35970	46345	111.88	15.2	834.8	0.05	4.21
FPC POLK	BOTH	FPC5	414.4	3073.91	4070	-5745	24.7	34.4	400	40.5	4.1
GEN. PORT. CEMENT KILN 4	PSD	GENPORT1	358	3090.6	-52330	10945	-62.99	35.97	505.2	17.61	2.74

Table 2-5
Continued
PSD Class 2 SO2 Source Inventory
Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	INVENTORY Designation	Modeling Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinate EAST	Stack Centered Coordinate NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
GEN. PORT. CEMENT KILN 5	PSD	GENPORT2	358	3090.6	-52330	10945	-69.3	45.42	494.1	5.8	3.81
HARDEE	BOTH	HARDEE1	404.8	3057.4	-5530	-22255	277.6	22.9	389	23.9	4.88
IMC-Agrico/Nichols/Conserve (2@ 1300TPD & 4lb/To	PSD	IMC1	398.4	3084.2	-11930	4545	-54.6	30.5	308	18.9	1.8
IMC-Agrico/Nichols/Conserve (2000TPD @ 4LB/Ton)	PSD	IMC2	398.4	3084.2	-11930	4545	-42	45.7	352	10.3	2.3
IMC-Agrico/Nichols/Conserve (2500TPD @ 4LB/Ton)	BOTH	IMC3	398.4	3084.2	-11930	4545	52.5	45.7	352	12	2.3
IMC-Agrico/Nichols/Conserve ROCK DRYER	PSD	IMC4	398.4	3084.2	-11930	4545	-3.88	24.4	339	12.9	1.52
IMC-Agrico/NEW WALES AFI PLANT	BOTH	IMC5	396.6	3078.9	-13730	-755	0.2	52.4	322	13.1	2.4
IMC-Agrico/NEW WALES DAP	BOTH	IMC6	396.6	3078.9	-13730	-755	5.54	36.6	319.1	20.15	1.83
IMC-Agrico/NEW WALES MULTIPHOS	BOTH	IMC7	396.6	3078.9	-13730	-755	4.8	52.4	314	15.8	1.4
IMC-Agrico/NEW WALES ROCK DRYER	PSD	IMC8	396.6	3078.9	-13730	-755	-34.27	21	347	18.6	2.13
IMC-Agrico/NEW WALES SAP #1, 2, 3 (3 AT 2900 TP	BOTH	IMC9	396.6	3078.9	-13730	-755	182.85	61	350	15.31	2.6
IMC-Agrico/NEW WALES SAP #1, 2, 3 BASELINE	PSD	IMC10	396.6	3078.9	-13730	-755	-146	61	350	14.28	2.6
IMC-Agrico/NEW WALES SAP #4, 5 (2 AT 2900 TPD)	BOTH	IMC11	396.6	3078.9	-13730	-755	121.9	60.7	350	15.31	2.6
IMC-Agrico/PIERCE DRYERS 1, 2	PSD	IMC12	404.1	3078.95	-6230	-705	-24.32	24.38	339	12.94	1.52
IMC-Agrico/PIERCE DRYERS 3, 4	PSD	IMC13	404.1	3078.95	-6230	-705	-23	24.38	339	18.82	2.43
IMC-Agrico/SO. PIERCE DAP PLANT	BOTH	IMC14	407.5	3071.33	-2830	-8325	4.41	38.1	328	14.6	3.1
IMC-Agrico/SO. PIERCE H2SO4 (2 @ 2700 TPD)	BOTH	IMC15	407.5	3071.3	-2830	-8355	113.4	44.18	350	13.29	2.74
IMC-Agrico/SO. PIERCE H2SO4 (2 @1800 TPD)	PSD	IMC16	407.5	3071.3	-2830	-8355	-75.6	45.73	350	26.4	1.6
LAKELAND LARSEN CT	BOTH	LAKE1	409.3	3102.8	-1030	23145	29.11	30.48	783.2	28.22	5.79
LAKELAND MCINTOSH 3	BOTH	LAKE2	409.2	3106.2	-1130	26545	500.1	76.2	350	19.7	4.88
MOBIL Nichols 75 HP BOILER	PSD	MOBIL1	398.3	3084.3	-12030	4645	-0.87	4	522	1.8	0.8
MOBIL Nichols CALCINER	PSD	MOBIL2	398.3	3084.3	-12030	4645	-13.89	28.4	340	19.24	1.09
MOBIL Nichols DRYER 4	BOTH	MOBIL3	398.3	3084.3	-12030	4645	2.44	25.9	339	16.05	2.29
MOBILE Electrophos 400HP BOILER	PSD	MOBILE1	405.6	3079.4	-4730	-255	-6.53	7.32	464	3.23	0.91
MOBILE Electrophos 600HP BOILER	PSD	MOBILE2	405.6	3079.4	-4730	-255	-10.05	6.1	464	7.71	0.91
MOBILE Electrophos CALCINER	PSD	MOBILE3	405.6	3079.4	-4730	-255	-7.11	25.61	306	6.97	2.13
MOBILE Electrophos COKE DRYER	PSD	MOBILE4	405.6	3079.4	-4730	-255	-3.17	18.29	322	22.87	0.7
MOBILE Electrophos Furnace (31.25TPH Rock@ 0.3%S)	PSD	MOBILE5	405.6	3079.4	-4730	-255	-47.25	29.27	314	8.52	2.13
MOBILE Electrophos ROCK DRYER	PSD	MOBILE6	405.6	3079.4	-4730	-255	-21.81	18.29	350	6.79	1.83
MULBERRY COGENERATION CT	BOTH	MULB1	413.6	3080.6	3270	945	13.4	38.1	377	9.31	1.98
Mulbeerry Phosphates/Royster (1003TPD @29 LB/Ton)	PSD	MULB2	406.7	3085.2	-3630	5545	-152.71	51	356	9.9	2.13
Mulberry Phosphates/Royster (1700TPD @4 LB/Ton)	BOTH	MULB3	406.7	3085.2	-3630	5545	35.7	61	360	12.2	2.13
RIDGE COGENERATION	BOTH	RIDGE1	416.7	3100.4	6370	20745	13.8	99.1	350	14.54	3.05
TECO BIG BEND UNIT 3 (24-HR)	PSD	TECO1	361.9	3075	-48430	-4655	-1218	149.4	418	14.33	7.32
TECO BIG BEND UNIT 4 (U04)	BOTH	TECO2	361.9	3075	-48430	-4655	654.7	149.4	342.2	19.81	7.32
TECO BIG BEND UNITS 1&2 (24-HR)	PSD	TECO3	361.9	3075	-48430	-4655	-2436	149.4	422	28.65	7.32
TECO POLK POWER	BOTH	TECO4	402.42	3067.32	-7910	-12335	0.3	6.1	533	13.1	0.91
TECO POLK POWER	BOTH	TECO5	402.298	3067.297	-8032	-12358	1.27	60.7	1033	9.1	1.1

Table 2-5
Concluded
PSD Class 2 SO2 Source Inventory
Farmland Hydro, L.P. - Green Bay, Florida

SOURCE DESCRIPTION	INVENTORY Designation	Modeling Designation	UTM Coordinates (km) EAST	UTM Coordinates (km) NORTH	Stack Centered Coordinates EAST	Stack Centered Coordinates NORTH	Emissions (g/s)	Height (m)	Temperature (°K)	Velocity (m/s)	Dimeter (m)
TECO POLK POWER	BOTH	TECO6	402.328	3067.472	-8002	-12183	8.2	60.7	1033	10.7	1.4
TECO POLK POWER	BOTH	TECO7	402.45	3067.35	-7880	-12305	49.68	45.72	400	16.76	5.79
TECO POLK POWER	BOTH	TECO8	402.488	3066.954	-7842	-12701	5.42	22.86	812	27.43	5.49
TECO POLK POWER	BOTH	TECO9	402.016	3067.64	-8314	-12015	0.016	22.9	1000	20	1.2
TECO POLK POWER 4 CC	BOTH	TECO10	402.45	3067.216	-7880	-12439	17.6	45.72	389	16.15	4.42
TECO POLK POWER 5 CT	BOTH	TECO11	402.488	3066.914	-7842	-12741	33.4	22.86	785	31.39	5.49
USS AGRI-CHEM BARTOW DRYER	PSD	USSAG1	413.2	3086.3	2870	6645	-3.41	15.8	332	10.01	1.83
USS AGRI-CHEM BARTOW SAP (800 TPD & 10 LB/Ton)	PSD	USSAG2	413.2	3086.3	2870	6645	-42	28.96	305	7.5	2.12
USSAC FT MEADE GTSP	PSD	USSAC1	416	3069	5670	-10655	-18.27	28.35	330	17.6	1.52
USSAC FT MEADE H2SO4 (1500 TPD @ 10 LB/Ton)	PSD	USSAC2	416.21	3068.74	5880	-10915	-78.8	29	314	6.77	3.02
USSAC FT MEADE H2SO4 1 & 2 (2200 TPD)	BOTH	USSAC3	416.12	3068.62	5790	-11035	92.48	53.4	355	10	2.59

TABLE 2-6
SUMMARY OF CLASS II AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

MET. DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)					
	PSD			AAQS		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	150.9	36.0	44.9	537.1	183.1
1988	0	167.5	56.9	42.5	554.2	177.9
1989	0	208.9	51.4	43.4	565.3	207.8
1990	0	184.7	28.7	46.0	559.2	182.5
1991	0	197.3	33.8	45.4	495.8	185.7
MAX. INCL. BACKGROUND (3)	0	208.9	56.9	57.0	576.3	218.8
INCREMENT & STD.	20	512	91	60	1300	260
STD. EXCEEDED	NO	NO	NO	NO	NO	NO

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) A background concentration of 11 ug/m3 was included.

Figure 2.1-1
Modeling Receptor Network For Class 2 and FAAQS
Significant Impact Analysis

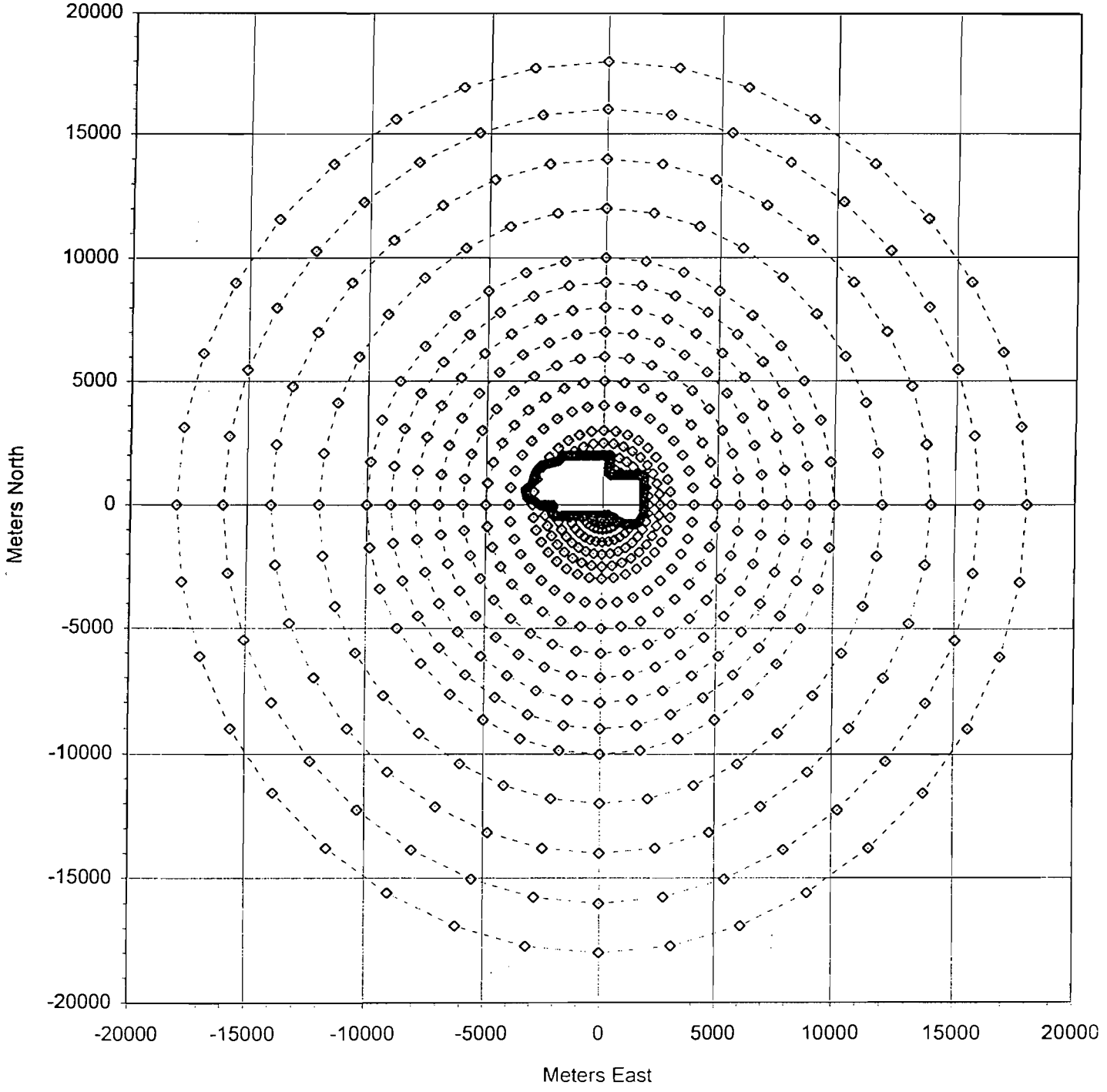


Figure 2.1-2
Modeling Receptor Network For Class 1 Chasshowitzka N.W.R.
Significant Impact Analysis

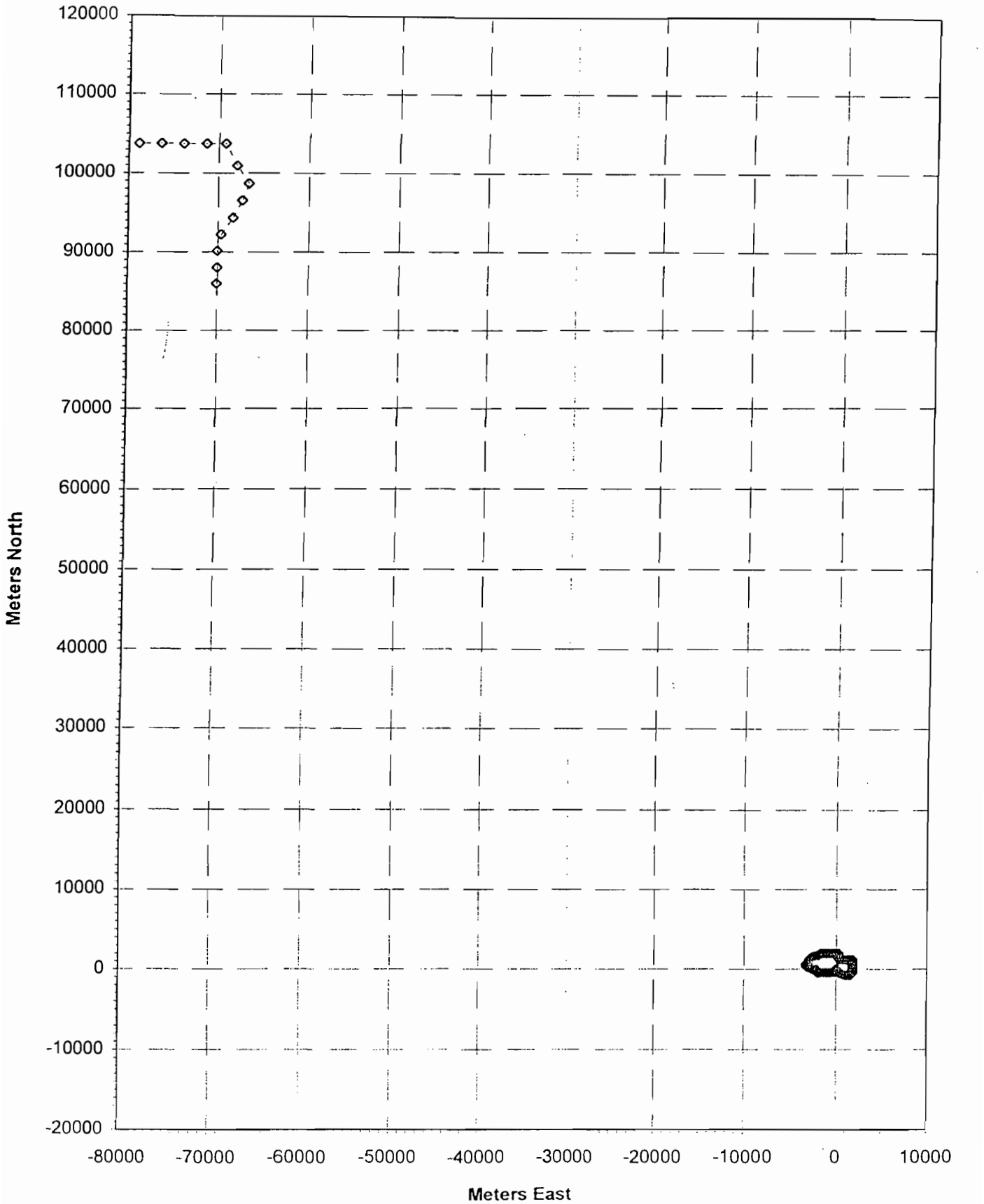


Figure 2.1-3
Modeling Receptor Network for For Class 2 and FAAQS Increment Analysis
3-Hour Averaging Periods

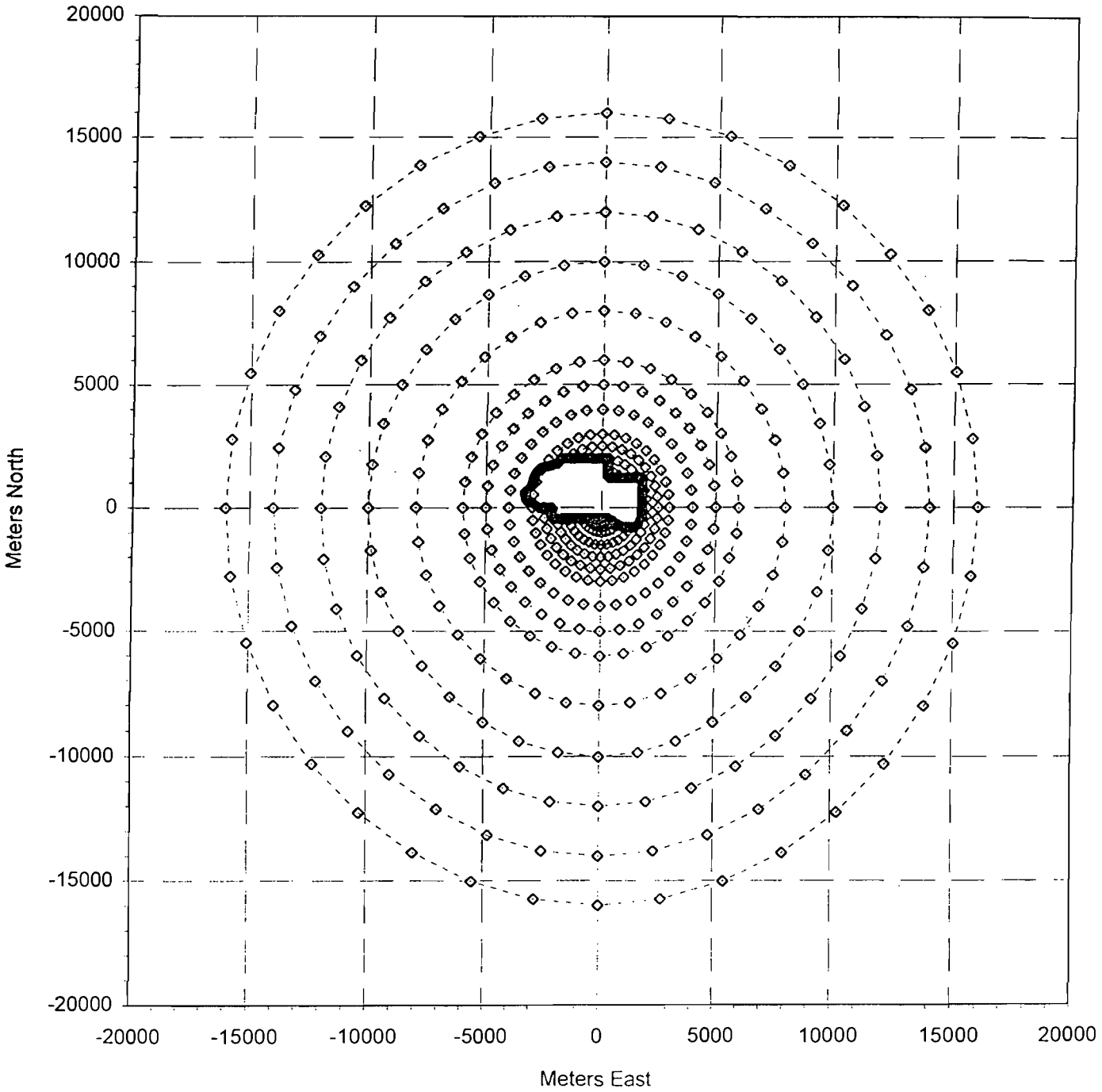


Figure 2.1-4
Modeling Receptor Network for For Class 2 and FAAQS Increment Analysis
24-Hour Averaging Periods

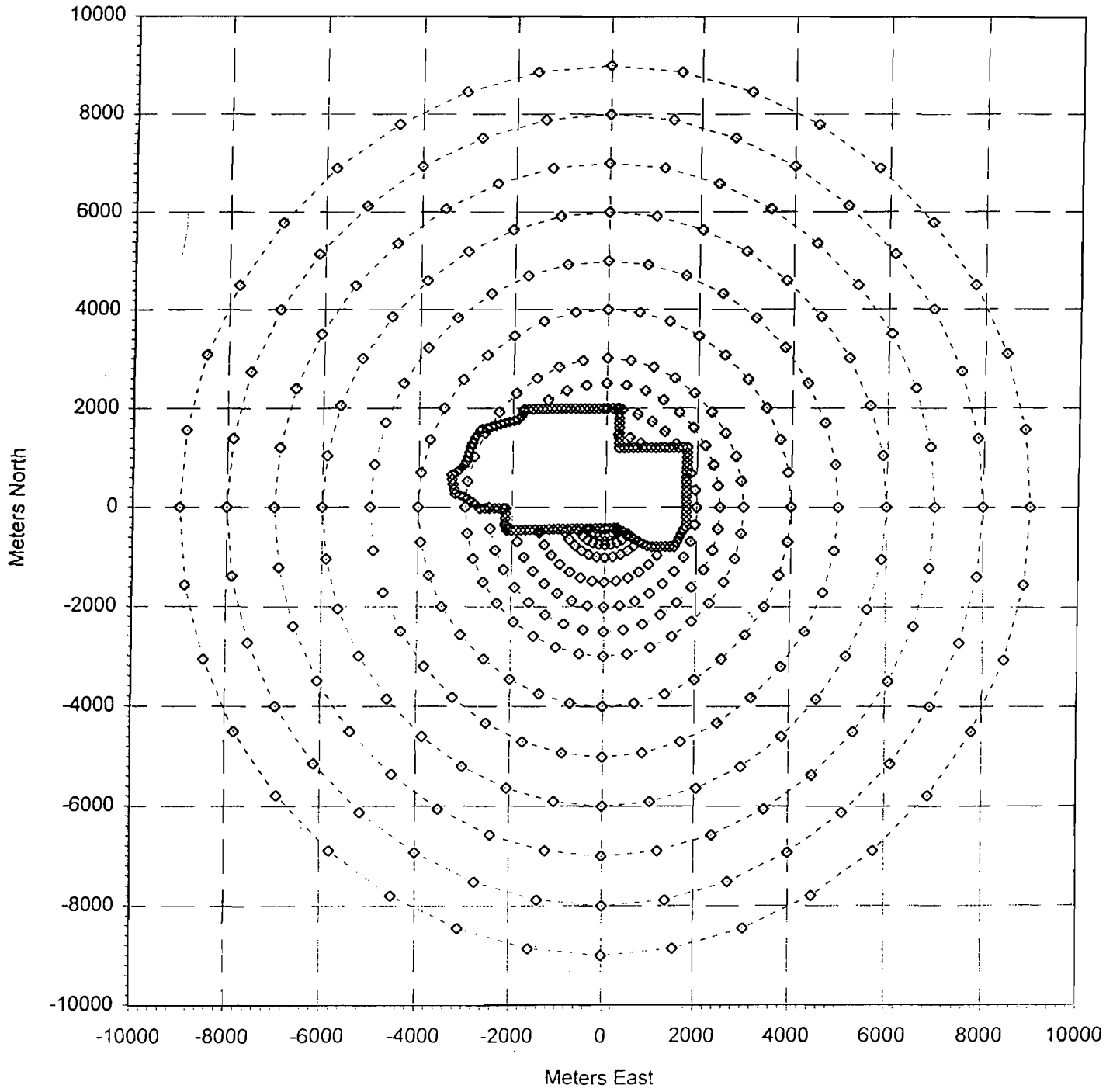
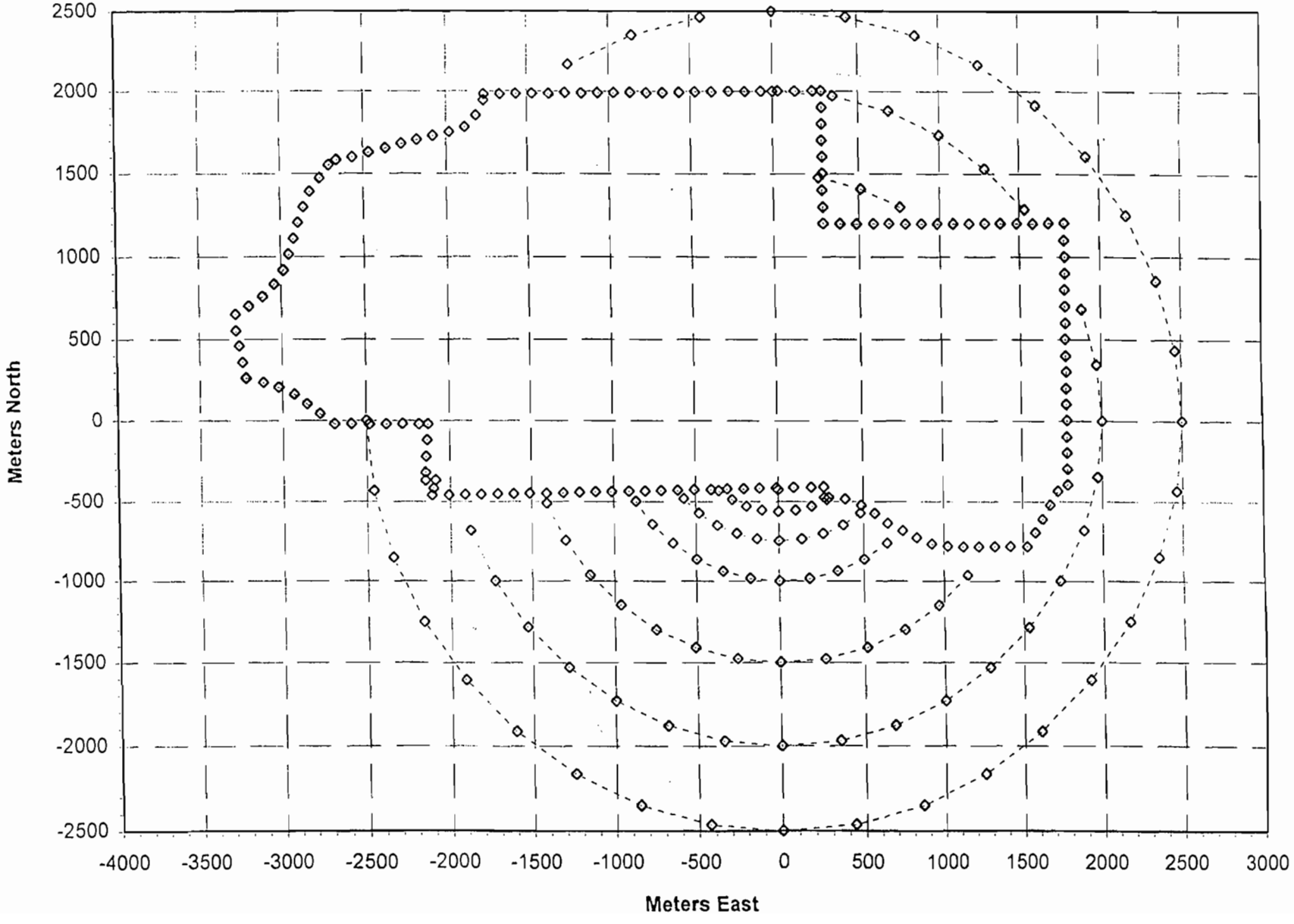


Figure 2.1-5
Modeling Receptor Network for For Class 2 and FAAQS Increment Analysis
Annual Averaging Periods



APPENDIX
EMISSION RATE CALCULATIONS

1.0 PERMITTED EMISSION RATES

1.1 No. 3 SULFURIC ACID PLANT

SO_2 = 350 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1533 TPY

ACID MIST (SAM) = 13.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 57.5 TPY

1.2 No. 4 SULFURIC ACID PLANT

SO_2 = 350 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1533 TPY

SAM = 13.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 47.5 TPY

1.3 No. 5 SULFURIC ACID PLANT

SO_2 = 467 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 2044 TPY

SAM = 17.5 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 76.7 TPY

1.4 No. 6 SULFURIC ACID PLANT

Not currently permitted.

2.0 PROPOSED EMISSION RATE CALCULATIONS:

2.1 No. 3 SULFURIC ACID PLANT

To be permanently shut down and dismantled.

2.2 No. 4 SULFURIC ACID PLANT

SO_2 = 1850 tons/day x day/24 hrs x 4.0 lbs/ton
= 308.3 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1350.5 TPY

SAM = 1850 tons/day x day/24 hrs x 0.15 lb/ton
= 11.6 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 50.6 TPY

2.3 No. 5 SULFURIC ACID PLANT

SO_2 = 2400 tons/day x day/24 hrs x 4.0 lbs/ton
= 400 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1752 TPY

SAM = 2400 tons/day x day/24 hrs x 0.15 lb/ton
= 15.0 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 65.7 TPY

2.4 No. 6 SULFURIC ACID PLANT

SO_2 = 2750 tons/day x day/24 hrs x 4.0 lbs/ton
= 458.3 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 2007.5 TPY

SAM = 2750 tons/day x day/24 hrs x 0.15 lb/ton
= 17.2 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 75.3 TPY

Please note that the proposed project does not result in any emissions increase, as the current allowable emissions are simply redistributed.

MODELING OUTPUT ON DISK

CURRENT AIR PERMIT

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Permit Number: AC 53-265755
PSD-FL-225
Expiration Date: Dec. 31, 1996
County: Polk
UTM Coordinates: 17-410.3 km E
17-3079.7 km N
Project: Sulfuric Acid Plant Production Increase

This permit is issued under the provisions of Chapter 403, Florida Statutes; Chapters 62-210, 212, 272, 296 and 297, Florida Administrative Code (F.A.C.); and, Chapter 62-4, F.A.C. The above named permittee is hereby authorized to perform the work or operate the emission unit/source shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and specifically described as follows:

For the increase in production rate of the Nos. 3, 4 and 5 sulfuric acid plants from a total of 5,640 tons of sulfuric acid product/day to 7,000 tons/day. No major physical changes are required for this modification. The sources are located at the permittee's facility in Bartow, Polk County, Florida.

The modification shall be in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application received February 21, 1995
2. Department's letter dated March 22, 1995
3. USDOI's letter dated March 29, 1995
4. Koogler & Assoc. letter dated May 10, 1995
5. Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants, 1989

GENERAL CONDITIONS:

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.

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.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-30.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(x) Determination of Best Available Control Technology (BACT)
(x) Determination of Prevention of Significant Deterioration (PSD)
(x) Compliance with New Source Performance Standards (NSPS)

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

GENERAL CONDITIONS:

for 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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

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.

SPECIFIC CONDITIONS:

1. Unless otherwise indicated, the subject modification shall be in accordance with the capacities and specifications stated in the application.

2. The maximum production rates for the Nos. 3 and 4 sulfuric acid plants shall be 2,100 tons/day each while that for the No. 5 sulfuric acid plant shall be 2,800 tons/day, based on 100% sulfuric acid (H_2SO_4). [Rule 62-212.200(56), F.A.C.]

3. The Nos. 3, 4 and 5 sulfuric acid plants may operate on a full-time basis (8,760 hours per year). [Rule 62-212.200(56), F.A.C.]

4. Emissions of sulfur dioxide (SO_2), sulfuric acid mist (SAM) and visible emissions (VE) from the Nos. 3, 4 and 5 sulfuric acid plants shall not exceed the following limits [Rule 62-212.410, F.A.C.]:

	SO_2		SAM		VE
Plant	lb/hr	TPY	lb/hr	TPY	%
3	350	1,533	13.1	57.5	10
4	350	1,533	13.1	57.5	10
5	467	2,044	17.5	76.7	10

SPECIFIC CONDITIONS:

5. Before this permit expires, performance testing of emissions from each unit shall be conducted with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then emission units may be tested at less than 90% of the maximum operating rate allowed by the permit. In this case, subsequent emission unit operation is limited to 110% of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities (with prior notification provided to the Department) is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. [Rule 62-297.340(1)(a), F.A.C.]

6. Performance testing shall be conducted and compliance determined using the test methods and procedures set forth in 40 CFR 60.85(a) through (c). Pursuant to Rule 62-297.340(1)(i), the Department's Southwest District office shall be notified in writing at least 15 days prior to performance testing. Pursuant to Rule 62-297.570(1) and (2), written reports of the test results shall be submitted to that office within 45 days of test completion.

7. A continuous monitoring system for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained as described in 40 CFR 60.84(a) through (e). [Rule 62-296.800, F.A.C.; 40 CFR 60.84]

8. Objectionable odors associated with air emissions shall be prohibited. [Rule 62-296.320(2), F.A.C.]

9. Pursuant to Rule 62-210.700(1), F.A.C., excess emissions from the sulfuric acid plants resulting from startup, shutdown, malfunction, or load change 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 three hours in any 24-hour period unless specifically authorized by the Department for a longer duration. Best operational start-up practices shall be followed as described in the attached Memorandum of Understanding signed in 1989.

10. Stack sampling facilities shall be provided by the permittee in accordance with Rule 62-297.345, F.A.C.

SPECIFIC CONDITIONS:

11. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.090, F.A.C.].

12. An application for an operation permit must be submitted to the Department's Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. The operation permit application shall include a set of conditions acceptable to the Department for startup/shutdown of the permittee's sulfuric acid plant. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit. [Rules 62-4.055 and 62-4.220, F.A.C.].

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes, P.E.
Director
Division of Air Resources Management

Best Available Control Technology (BACT) Determination
Farmland Hydro, L.P.
Polk County
Permit Number AC 53-265755
PSD-FL-225

The applicant proposes to increase the total production of the No. 3, 4 and 5 Sulfuric Acid Plants (SAP) from 5,640 tons per day (TPD) to 7,000 TPD at the applicant's phosphate fertilizer manufacturing facility on County Road 640 West in Polk County, Florida. The proposed project will result in a significant increase in emissions of sulfur dioxide (SO_2) and sulfuric acid mist. 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.). The BACT determination is part of the PSD review requirements in accordance with Rule 62-212.410, F.A.C.

Date Application Received: February 21, 1995

Date Application Complete: May 11, 1995

BACT Determination Proposed by Applicant:

Control Technology: Double Absorption/Fiber Mist Eliminators

Emission Limits: SO_2: 4 lbs/ton of 100% H_2SO_4 produced
Acid Mist: 0.15 lb/ton of 100% H_2SO_4 produced
Visible Emissions: 10% opacity

BACT Determination Procedure:

In accordance with Chapter 62-212, F.A.C., this determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Determined by the Department: Same as proposed by applicant

BACT Determination Rationale

The Department's BACT determination is the same as that proposed by the applicant. This is consistent with determinations completed by other states and the Standards of Performance for Sulfuric Acid Plants, 40 CFR 60 Subpart H, (double absorption process). The process itself is the control technology for SO_2. For this reason, more stringent limits have not been required. The emission limits reflect a conversion efficiency of around 99.4% of SO_2 to H_2SO_4. High efficiency mist eliminators are considered BACT for sulfuric acid mist. BACT/LAER Clearinghouse information indicates that double absorption technology and the use of high efficiency mist eliminators are representative of BACT using the top-down approach.

Conclusion

The emission limits are equivalent to those in other BACT determinations and are in compliance with all air pollution regulations. It is concluded that the emission limits established herein represent BACT.

BACT Analysis Details Available From:

John Reynolds, Permit Engineer
New Source Review Section
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

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

9/20, 1995
Date

Approved by:

Howard L. Rhodes, P.E., Director
Division of Air Resources Management

9/22/95, 1995
Date

Policy Book

Florida Department of

Memorandum Environmental Protection

RECEIVED
AUG 25 1997
Florida Department of Environmental Protection
SOUTHWEST DISTRICT

TO: Jerry Kissel

FROM: Al Linero 8/21

DATE: August 21, 1997

SUBJECT: PSD Applicability Question Raised in August 14, 1997 Letter (attached)

This is in response to your question on whether actual emissions should be presumed to be equal to allowables in a case where only six months of data are available. We agree that the rule provision (Rule 62-210.200(12)(b)) is intended for situations where normal operation has not begun such that actual emission data are either not available or not sufficient to predict annual emissions. In your example, we assume that normal operation has begun and that we have data sufficient to predict annual emissions. Assuming that there is a corresponding 3.3% production increase or physical change behind the request for an increase in allowable emissions from 300 to 310 TPY, actual emissions (assume PM) could be presumed to increase by up to 3.3% of 280 or 9.3 TPY. This actual increase would not be a PSD-significant change in real terms, but it would trigger PSD applicability for PM if the allowables are increased to 25 TPY over actual emissions or 305 TPY.

Our analysis appears to be consistent with the attached excerpt from the EPA's New Source Review Manual (October 1990 Draft) since the source is not operating "at or near its allowable emissions level". In fact, the figures suggest that the actual increase could be absorbed with no increase in allowables, although the safety margin would be tighter. We believe that the company could escape PSD by proposing a new allowable of 304.9 TPY which would give them a margin for compliance of about 15.6 TPY.

This case is only hypothetical. We prefer to evaluate specific cases where we know actual and projected production and emission rates, as well as the nature of the previous and planned physical and control equipment alterations. Regarding another specific inquiry from Mr. Raval that may be connected with this, please note that an emissions decrease cannot be credited from a permit that has not been constructed or operated. We interpret that to also apply to modifications that have not yet been fully implemented.

If there are further questions, please call me or John Reynolds at SC 278-1344.

AAL/jr
Attachment

creditable emissions increase or decrease involves determining old and new actual annual emissions levels for each affected emission unit.

The following basic criteria should be used when quantifying the increase or decrease:

- For proposed new or modified units which have not begun normal operations, the potential to emit must be used to determine the increase from the units.
- For an existing unit, actual emissions just prior to either a physical or operational change are based on the lower of the actual or allowable emissions levels. This "old" emissions level equals the average rate (in tons per year) at which the unit actually emitted the pollutant during the 2-year period just prior to the change which resulted in the emissions increase. These emissions are calculated using the actual hours of operation, capacity, fuel combusted and other parameters which affected the unit's emissions over the 2-year averaging period. In certain limited circumstances, where sufficient representative operating data do not exist to determine historic actual emissions and the reviewing agency has reason to believe that the source is operating at or near its allowable emissions level, the reviewing agency may presume that source-specific allowable emissions [or a fraction thereof] are equivalent to (and therefore are used in place of) actual emissions at the unit. For determining the difference in emissions from the change at the unit, emissions after the change are the potential to emit from the units.
- A source cannot receive emission reduction credit for reducing any portion of actual emissions which resulted because the source was operating out of compliance.
- An emissions decrease cannot be credited from a unit that has not been constructed or operated.

Examples of how to apply these creditability criteria for prospective emissions reductions is shown in Figure A-1. As shown in Case I of Figure A-1, the potential to emit for an existing emissions unit (which is based on the existing allowable emission rate) is greater than the actual emissions, which are based on actual operating data (e.g., type and amount of fuel combusted at the unit) for the past 2 years. The source proposes to switch to a lower sulfur fuel. The amount of the reduction in this case is the difference between the actual emissions and the revised allowable emissions. (Recall that

1050053-018-AC

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

KA 123-97-02

September 12, 1997

RECEIVED
OCT 03 1997
BUREAU OF
AIR REGULATION

Mr. A. A. Linero
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Polk County-AP
Farmland Hydro, L.P.
Green Bay Complex
Minor Permit Modification Request
Sulfuric Acid Production Reallocation -1050053-018-AC
PSD-FL-225

Dear Mr. Linero:

Farmland Hydro, L.P. is submitting this minor permit amendment request in order to amend the facility-wide allocation of sulfuric acid production, and the associated emissions, at the existing facility in Polk County, Florida.

As you are aware, the facility-wide allocation was established under PSD-FL-225, AC53-265755, which included the existing Nos. 3, 4 and 5 Sulfuric Acid Plants. Farmland proposes to construct a new (No. 6) plant to replace the existing No. 3 plant. The proposed project will not affect the federally enforceable production cap and emissions cap associated with the facility, only the re-allocation of the production among the three plants.

Enclosed are four (4) copies of the permit amendment application, along with a check in the amount of $250 (amendment processing fee). A disk, containing the modeling output of the air impact analysis associated with the proposed project, is also enclosed.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par
Enc.

cc: SWD
EPA
NPS
Polk Co.
> application

c: Charles Jenkins, Farmland Hydro, L.P.

1050053-018-AC

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

KA 123-97-02

September 12, 1997

Mr. A. A. Linero
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Polk County-AP
Farmland Hydro, L.P.
Green Bay Complex
Minor Permit Modification Request
Sulfuric Acid Production Reallocation -1050053-018-AC
PSD-FL-225

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par
Enc.

c: Charles Jenkins, Farmland Hydro, L.P.

VENDOR NO.
101890

VENDOR NAME
FLORIDA DEPT OF ENVIRONMENTAL

Farmland Hydro, L.P.
Post Office Box 960 Bartow, Florida 33831

0000002944

FHL
NBCDA
FHAP

CODE	CHECK NO.
IO	0000002944
DATE	PAGE
09/26/1997	1 of 1

FARMLAND HYDRO, L.P. ACCOUNTS PAYABLE CHECK DETAIL

B.A.	DATE	INVOICE NO.	DOCUMENT NO.	GROSS	DISCOUNT	NET
FHL	09/15/1997	91597	100003883	250.00		250.00
Return to Joan						
		Total		$250.00		$250.00

DETACH VOUCHER BEFORE DEPOSITING

Farmland

Farmland Hydro, L.P.
Post Office Box 960 Bartow, Florida 33831

HYDRO

NationsBank, N.A. (South)
Atlanta, Dekalb County, Georgia

[redacted] **NO. 0000002944**

DATE	CHECK NO.
09/26/1997	0000002944

AMOUNT VOID AFTER 180 DAYS

AMOUNT
*******$250.00

PAY EXACTLY **********250 DOLLARS AND 00 CENTS

FARMLAND HYDRO, L.P. ACCOUNTS PAYABLE

TO THE ORDER OF

FLORIDA DEPT OF ENVIRONMENTAL
PROTECTION
BUREAU OF AIR REGULATIONS
TWIN TOWERS OFFICE BLDG
2600 BLAIRSTONE RD
TALLAHASSEE FL 32399-2400

[redacted]

Farmland

THIS DISK CONTAINS SULFUR DIOXIDE (SO2) MODELING FILES FOR THE FARMLAND HYDRO, L.P. FACILITY IN GREEN BAY, FLORIDA. THE FOLLOWING ARE OUTPUT FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

THE FOLLOWING FILES CONTAIN ISCST3 MODELING OF:
SIGNIFICANT IMPACT ANALYSIS (SIA) FOR FAAQS, PSD CLASS 2 AREAS
SIA FOR PSD CLASS I AREA CHASSAHOWITZKA NWR, AND
INCREMENT ANALYSIS FOR FAAQS AND PSD CLASS 2 AREAS
BUILDING DOWNWASH, BUILDING PROFILE INPUT PROGRAM (BPIP) FILES.

SO2 ASI ANALYSIS OF CHASSAHOWITZKA NWR PSD CLASS I AREA:

ASI-C1	EXE	50,152 09-12-97	

ASI ANALYSIS OF FAAQS, AND PSD CLASS 2 AREA:

ASI-C2	EXE	162,699 09-12-97	

INCREMENT ANALYSIS OF PSD CLASS 2 AND FAAQS AREA:

C2-INV	EXE	365,603 09-12-97	PSD CLASS 2 AREA
FQS-INV	EXE	382,843 09-12-97	FAAQS AREA

AND:

BPIP-DW	EXE	20,828 09-12-97	BUILDING DOWNWASH CALCULATIONS

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 "ASI-C2" 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 PSD CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES;

C1ASI87	OUT	60,893 09-07-97
C1ASI88	OUT	60,893 09-07-97
C1ASI89	OUT	60,893 09-07-97
C1ASI90	OUT	60,893 09-07-97
C1ASI91	OUT	60,893 09-07-97

NO SO2 SIGNIFICANCE WAS FOUND AT THE PSD CLASS 1 AREA

THE FOLLOWING FILES CONTAIN SIGNIFICANT IMPACT ANALYSIS (SIA) FOR FAAQS AND PSD CLASS 2 AREAS FOR SO2. THERE ARE DISCRETE RECEPTORS AT 100 METER INTERVALS ALONG THE PROPERTY LINE, AND ADDITIONAL DISCRETE POLAR RECEPTORS FROM 427 METERS TO 2500 METERS AND POLAR RECEPTOR RINGS @ 3000 4000 5000 6000 7000 8000 9000 10000 12000 14000 16000 18000 METERS. POLAR RECEPTORS ARE CENTERED AT UTMS X=410,330E Y=3074,655N ON SULFURIC ACID PLANT NUMBER 5 OR NORTH WEST OF THE INTERSECTION OF 1ST AND B STREETS.

THE FOLLOWING SIA FILES ARE PROVIDED:

C2ASI87	OUT	212,787 09-07-97	SO2 CLASS 2 AND FAAQS SIA FOR 1987
C2ASI88	OUT	212,787 09-07-97	SO2 CLASS 2 AND FAAQS SIA FOR 1988
C2ASI89	OUT	212,787 09-07-97	SO2 CLASS 2 AND FAAQS SIA FOR 1989
C2ASI90	OUT	212,787 09-07-97	SO2 CLASS 2 AND FAAQS SIA FOR 1990
C2ASI91	OUT	212,787 09-07-97	SO2 CLASS 2 AND FAAQS SIA FOR 1991

THE SIA MODELING FOR PSD CLASS 2 AND FAAQS INDICATES THAT PSD CLASS 2 INCREMENT AND FAAQS STANDARD ANALYSIS ARE REQUIRED.

PSD CLASS 2 AND FAAQS INVENTORIES WERE COMPILED AND APPLIED TO THE RECEPTOR GROUPS THAT DEMONSTRATED SIGNIFICANCE. FOR THE FIVE YEARS MODELED, EACH AVERAGING PERIOD DEMONSTRATED MAXIMUM SIGNIFICANCE AT DIFFERENT RECEPTOR DISTANCES:

3-HOUR	14 KILOMETERS
24-HOUR	8 KILOMETERS
ANNUAL	DISCRETE RECEPTORS

IN THE INCREMENT ANALYSIS FOR THE 3-HOUR AVERAGING PERIOD, ALL DISCRETE RECEPTORS MENTIONED ABOVE WERE USED WITH POLAR RECEPTOR RINGS @ 3000 4000 5000 6000 7000 8000 10000 12000 14000 AND 16000 METERS.

FP2-387	OUT	197.698	09-11-97	PSD CLASS 2 FOR 1987
FP2-388	OUT	197.698	09-11-97	PSD CLASS 2 FOR 1988
FP2-389	OUT	197.698	09-12-97	PSD CLASS 2 FOR 1989
FP2-390	OUT	197.698	09-12-97	PSD CLASS 2 FOR 1990
FP2-391	OUT	197.698	09-12-97	PSD CLASS 2 FOR 1991

FNQ-387	OUT	206.603	09-11-97	FAAQS FOR 1987
FNQ-388	OUT	206.603	09-11-97	FAAQS FOR 1988
FNQ-389	OUT	206.603	09-11-97	FAAQS FOR 1989
FNQ-390	OUT	206.603	09-11-97	FAAQS FOR 1990
FNQ-391	OUT	206.603	09-11-97	FAAQS FOR 1991

IN THE INCREMENT ANALYSIS FOR THE 24-HOUR AVERAGING PERIOD, ALL DISCRETE RECEPTORS MENTIONED ABOVE WERE USED WITH POLAR RECEPTOR RINGS @ 3000 4000 5000 6000 7000 8000 AND 9000 METERS.

FP2-2487	OUT	196.045	09-06-97	PSD CLASS 2 FOR 1987
FP2-2488	OUT	195.911	09-06-97	PSD CLASS 2 FOR 1988
FP2-2489	OUT	195.911	09-06-97	PSD CLASS 2 FOR 1989
FP2-2490	OUT	195.911	09-07-97	PSD CLASS 2 FOR 1990
FP2-2491	OUT	195.911	09-07-97	PSD CLASS 2 FOR 1991

FNQ-2487	OUT	203.029	09-06-97	FAAQS FOR 1987
FNQ-2488	OUT	203.029	09-06-97	FAAQS FOR 1988
FNQ-2489	OUT	203.029	09-06-97	FAAQS FOR 1989
FNQ-2490	OUT	203.029	09-06-97	FAAQS FOR 1990
FNQ-2491	OUT	203.029	09-07-97	FAAQS FOR 1991

IN THE INCREMENT ANALYSIS FOR THE ANNUAL AVERAGING PERIOD, ONLY THE DISCRETE RECEPTORS MENTIONED ABOVE WERE REQUIRED.

FP2-AN87	OUT	145,953	09-07-97	PSD CLASS 2 FOR 1987
FP2-AN88	OUT	145,953	09-07-97	PSD CLASS 2 FOR 1988
FP2-AN89	OUT	145,953	09-07-97	PSD CLASS 2 FOR 1989
FP2-AN90	OUT	145,953	09-07-97	PSD CLASS 2 FOR 1990
FP2-AN91	OUT	145,953	09-07-97	PSD CLASS 2 FOR 1991
FNQ-AN87	OUT	153,027	09-07-97	FAAQS FOR 1987
FNQ-AN88	OUT	153,027	09-07-97	FAAQS FOR 1988
FNQ-AN89	OUT	153,027	09-07-97	FAAQS FOR 1989
FNQ-AN90	OUT	153,027	09-07-97	FAAQS FOR 1990
FNQ-AN91	OUT	153,027	09-07-97	FAAQS FOR 1991

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

FRM	INP	2,812	09-06-97	INPUT FOR SO2 SOURCES
FRM	OUT	5,836	09-06-97	OUTPUT FOR SO2 SOURCES
FRM	SUM	93,651	09-06-97	SUMMARY FOR SO2 SOURCES

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

SEPTEMBER 12, 1997
MARK KOLETZKE
KOOGLER AND ASSOCIATES
(352) 377-5822
KOLET@WORLDNET.ATT.NET

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

KA 123-97-01

August 15, 1997

RECEIVED
AUG 18 1997
BUREAU OF
AIR REGULATION

Mr. A. A. Linero
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Farmland Hydro, L.P.
Extension of Permit Expiration Date
Sulfuric Acid Plants 3, 4 and 5
AC53-265755, PSD-FL-225

Dear Mr. Linero:

This request is to extend the construction permit expiration date for FDEP permit No. AC53-265755, PSD-FL-225, for the above referenced units.

It is our understanding that FDEP is considering some rule changes which would allow construction permits to expire. As it is likely that the Title V permit for Farmland may be issued after the proposed rulemaking changes take effect, it is requested that the above permit be extended to 60 days after the Title V permit is issued.

Enclosed is a check in the amount of $50 (permit extension fee).

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par
encl.

c: C. Jenkins, Farmland
B. Thomas, FDEP Tampa

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Permit Number: AC 53-265755
PSD-FL-225
Expiration Date: Dec. 31, 1996
County: Polk
UTM Coordinates: 17-410.3 km E
17-3079.7 km N
Project: Sulfuric Acid Plant Production Increase

This permit is issued under the provisions of Chapter 403, Florida Statutes; Chapters 62-210, 212, 272, 296 and 297, Florida Administrative Code (F.A.C.); and, Chapter 62-4, F.A.C. The above named permittee is hereby authorized to perform the work or operate the emission unit/source shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and specifically described as follows:

For the increase in production rate of the Nos. 3, 4 and 5 sulfuric acid plants from a total of 5,640 tons of sulfuric acid product/day to 7,000 tons/day. No major physical changes are required for this modification. The sources are located at the permittee's facility in Bartow, Polk County, Florida.

The modification shall be in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application received February 21, 1995
2. Department's letter dated March 22, 1995
3. USDOI's letter dated March 29, 1995
4. Koogler & Assoc. letter dated May 10, 1995
5. Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants, 1989

Farmland Hydro, L.P.

Charles W. Jenkins
Manager of Environmental and Safety Services

Green Bay Plant
County Road 640
Post Office Box 960
Bartow, Florida 33831
Tele: 941 533-1141
Fax: 941 533-8793

December 20, 1996

Mr. W. C. Thomas
Florida Department of Environmental Protection
Southwest District Office
Division of Air Resources Management
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: Application for Operating Permit for Permit No. AC53-265755

Dear Mr. Thomas:

Enclosed are two signed copies of the Application for Operating of air sources in completion of the above referenced Construction Permit No. AC53-265755. I realize that I am a little behind the time schedule for submission of this application according to Specific Permit Condition No. 12, and as a result I would like to request an extension of the deadline on this permit. Please extend the expiration of this permit from December 31, 1996, to 60 days forward.

If you have any questions, please give me a call at (941) 533-1141, extension 334.

Sincerely,

Charles W. Jenkins
Manager of Environmental and Safety Services

CWJ:jp\210-96
enclosures - 2 binders

RULE 62-213.420(1)(a)2. ALLOWS THIS APP'N TO BE TREATED AS A SUPPLEMENT TO TITLE II APP'N. AC53-265755 DOES NOT NEED TO BE EXTENDED.

J. Kissel 12/31/96

A.I. C. JENKINS
TITLE II APP'N
S.A.F. PLANT 3 FILE

435

JOHN B. KOOGLER, P.A.
DBA KOOGLER & ASSOCIATES
4014 N.W. 13TH ST., 352-377-5822
GAINESVILLE, FL 32609

[redacted] 00320

8/15 19 97

PAY TO THE ORDER OF Florida Dept of Environmental Protection $ 50 00

Fifty and 00/100 DOLLARS

FIRST UNION®
First Union National Bank of Florida
Gainesville, Florida
24 Hour Information Service
1-800-735-1012

FOR Farmland Hydro - air permit extension

[redacted]

David Lee Johnson

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DEP File No. AC 53-265755
PSD-FL-225
Polk Co.

Mr. C. M. Farris
Vice President - Operations
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Enclosed is Permit Number AC 53-265755 (PSD-FL-225) for an increase in the combined total production rate of the Nos. 3, 4 and 5 sulfuric acid plants from 5,640 to 7,000 tons per day at Farmland's facility located near Bartow in Polk County, Florida, issued pursuant to Section (s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, 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 Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; 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 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

A A Linero, P.E. for
C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 9-25-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kuri Tobes (Clerk) 9/25/95 (Date)

Copies furnished to:
W. Thomas, SWD
R. Harwood, Polk County
J. Harper, EPA
J. Bunyak, NPS
J. Koogler, P.E.

Final Determination

Farmland Hydro, L.P.
Bartow, Polk County, Florida

SULFURIC ACID PRODUCTION INCREASE
PLANTS 3, 4 AND 5

Permit Number
PSD-FL-225
AC 53-265755

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

September 19, 1995

Final Determination
Farmland Hydro, L.P.
PSD-FL-225
AC 53-265755

The Technical Evaluation and Preliminary Determination for a construction permit to increase the combined total production of the Nos. 3, 4 and 5 sulfuric acid plants from 5,640 to 7,000 tons per day (100% acid basis) at the applicant's facility in Bartow, Polk County, Florida, was distributed on August 3, 1995. The Notice of Intent to Issue was published in the Ledger on August 12, 1995. Copies of the evaluation were available for public inspection at the Department's offices in Tallahassee and Tampa.

Since no adverse comments were received following distribution of the proposed permit, the final action of the Department will be to issue the construction permit as proposed.

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Permit Number: AC 53-265755
PSD-FL-225
Expiration Date: Dec. 31, 1996
County: Polk
UTM Coordinates: 17-410.3 km E
17-3079.7 km N
Project: Sulfuric Acid Plant Production Increase

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The modification shall be in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

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2. Department's letter dated March 22, 1995
3. USDOI's letter dated March 29, 1995
4. Koogler & Assoc. letter dated May 10, 1995
5. Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants, 1989

GENERAL CONDITIONS:

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.

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, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any 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 of 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.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement 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.

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.

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

GENERAL CONDITIONS:

auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

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 any 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.

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.

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.

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

GENERAL CONDITIONS:

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.

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.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-30.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(x) Determination of Best Available Control Technology (BACT)
(x) Determination of Prevention of Significant Deterioration (PSD)
(x) Compliance with New Source Performance Standards (NSPS)

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

GENERAL CONDITIONS:

for 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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

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.

SPECIFIC CONDITIONS:

1. Unless otherwise indicated, the subject modification shall be in accordance with the capacities and specifications stated in the application.

2. The maximum production rates for the Nos. 3 and 4 sulfuric acid plants shall be 2,100 tons/day each while that for the No. 5 sulfuric acid plant shall be 2,800 tons/day, based on 100% sulfuric acid (H_2SO_4). [Rule 62-212.200(56), F.A.C.]

3. The Nos. 3, 4 and 5 sulfuric acid plants may operate on a full-time basis (8,760 hours per year). [Rule 62-212.200(56), F.A.C.]

4. Emissions of sulfur dioxide (SO_2), sulfuric acid mist (SAM) and visible emissions (VE) from the Nos. 3, 4 and 5 sulfuric acid plants shall not exceed the following limits [Rule 62-212.410, F.A.C.]:

	SO_2		SAM		VE
Plant	lb/hr	TPY	lb/hr	TPY	%
3	350	1,533	13.1	57.5	10
4	350	1,533	13.1	57.5	10
5	467	2,044	17.5	76.7	10

SPECIFIC CONDITIONS:

5. Before this permit expires, performance testing of emissions from each unit shall be conducted with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then emission units may be tested at less than 90% of the maximum operating rate allowed by the permit. In this case, subsequent emission unit operation is limited to 110% of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities (with prior notification provided to the Department) is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. [Rule 62-297.340(1)(a), F.A.C.]

6. Performance testing shall be conducted and compliance determined using the test methods and procedures set forth in 40 CFR 60.85(a) through (c). Pursuant to Rule 62-297.340(1)(i), the Department's Southwest District office shall be notified in writing at least 15 days prior to performance testing. Pursuant to Rule 62-297.570(1) and (2), written reports of the test results shall be submitted to that office within 45 days of test completion.

7. A continuous monitoring system for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained as described in 40 CFR 60.84(a) through (e). [Rule 62-296.800, F.A.C.; 40 CFR 60.84]

8. Objectionable odors associated with air emissions shall be prohibited. [Rule 62-296.320(2), F.A.C.]

9. Pursuant to Rule 62-210.700(1), F.A.C., excess emissions from the sulfuric acid plants resulting from startup, shutdown, malfunction, or load change 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 three hours in any 24-hour period unless specifically authorized by the Department for a longer duration. Best operational start-up practices shall be followed as described in the attached Memorandum of Understanding signed in 1989.

10. Stack sampling facilities shall be provided by the permittee in accordance with Rule 62-297.345, F.A.C.

SPECIFIC CONDITIONS:

11. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.090, F.A.C.].

12. An application for an operation permit must be submitted to the Department's Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. The operation permit application shall include a set of conditions acceptable to the Department for startup/shutdown of the permittee's sulfuric acid plant. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit. [Rules 62-4.055 and 62-4.220, F.A.C.].

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Howard L. Rhodes, P.E.
Director
Division of Air Resources Management

Best Available Control Technology (BACT) Determination
Farmland Hydro, L.P.
Polk County
Permit Number AC 53-265755
PSD-FL-225

The applicant proposes to increase the total production of the No. 3, 4 and 5 Sulfuric Acid Plants (SAP) from 5,640 tons per day (TPD) to 7,000 TPD at the applicant's phosphate fertilizer manufacturing facility on County Road 640 West in Polk County, Florida. The proposed project will result in a significant increase in emissions of sulfur dioxide (SO_2) and sulfuric acid mist. 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.). The BACT determination is part of the PSD review requirements in accordance with Rule 62-212.410, F.A.C.

Date Application Received: February 21, 1995

Date Application Complete: May 11, 1995

BACT Determination Proposed by Applicant:

Control Technology: Double Absorption/Fiber Mist Eliminators

Emission Limits: SO_2: 4 lbs/ton of 100% H_2SO_4 produced
Acid Mist: 0.15 lb/ton of 100% H_2SO_4 produced
Visible Emissions: 10% opacity

BACT Determination Procedure:

In accordance with Chapter 62-212, F.A.C., this determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Determined by the Department: Same as proposed by applicant

BACT Determination Rationale

The Department's BACT determination is the same as that proposed by the applicant. This is consistent with determinations completed by other states and the Standards of Performance for Sulfuric Acid Plants, 40 CFR 60 Subpart H, (double absorption process). The process itself is the control technology for SO_2. For this reason, more stringent limits have not been required. The emission limits reflect a conversion efficiency of around 99.4% of SO_2 to H_2SO_4. High efficiency mist eliminators are considered BACT for sulfuric acid mist. BACT/LAER Clearinghouse information indicates that double absorption technology and the use of high efficiency mist eliminators are representative of BACT using the top-down approach.

Conclusion

The emission limits are equivalent to those in other BACT determinations and are in compliance with all air pollution regulations. It is concluded that the emission limits established herein represent BACT.

BACT Analysis Details Available From:

John Reynolds, Permit Engineer
New Source Review Section
Bureau of Air Regulation
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

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

9/20, 1995
Date

Approved by:

Howard L. Rhodes, P.E., Director
Division of Air Resources Management

9/22/95, 1995
Date

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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:
C.M. Farris, V.P. - Operations
Farmland Hydro, LP
County Rd 640 West
Bartow, Fl 33830

4a. Article Number
Z 127 632 522

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

7. Date of Delivery
9-28-95

5. Signature (Addressee)
Linda K. Thompson

6. Signature (Agent)

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

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Z 127 632 522

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to C.M. Farris	
Street and No. Farmland Hydro	
P.O., State and ZIP Code Bartow, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 9-25-95	

AC 53-265755
POD-FL-225

PS Form **3800**, March 1993

Florida Department of
Environmental Protection

Memorandum

Patty A

TO: Howard L. Rhodes

THRU: C. H. Fancy

FROM: A. A. Linero

DATE: September 19, 1995

SUBJ: Approval of Permit PSD-FL-225
Farmland Hydro, L.P. - Polk County

Attached for your approval and signature is a PSD permit and a Best Available Control Technology Determination for an increase in production of three existing sulfuric acid plants at the subject facility in Bartow, Polk County.

The total production will be increased from 5,640 to 7,000 tons/day at plants Nos. 3, 4 and 5. There will be no physical modifications except for replacement of one heat exchanger and the installation of additional catalyst. The sulfur dioxide and acid mist emissions are minimized by a control technology consisting of double absorption and high efficiency mist elimination.

AAL/jrt

Attachments

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-07

August 21, 1995

Mr. Clair H. Fancy
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Additional Information for
Permit Amendment Request
Farmland Hydro, L.P.

Dear Mr. Fancy:

This is in response to your letter dated June 7, 1995, and discussions last week between Martin Costello and Pradeep Raval regarding the permit amendments for several Farmland sources. The information provided below is in the order of the amendments evaluated by FDEP.

Green SPA Plant, AC53-138041

We hereby withdraw the request for amendment of the Green Superphosphoric Acid Plant permit.

No. 5 SAP, AC53-185490, PSD-FL-143A

We hereby withdraw the request for amendment of the No. 5 Sulfuric Acid Plant permit, except for Specific Condition No. 8. We request that the testing frequency for NOx be reduced from annually to once every five years. It is expected that a corresponding amendment to the operation permit will result in testing for NOx prior to permit renewal only.

Annual NOx testing is not justified for the following reasons:

1. NOx is an uncontrolled byproduct of a manufacturing process which inherently controls the pollutants regulated under 40 CFR 60, Subpart H (sulfur dioxide and sulfuric acid mist).

2. There is no NOx emission standard for sulfuric acid plants.

3. The permit allows adjustment of the NOx emission rate if warranted based on future tests. This provision was included in recognition of Item 1 above. It also reflects the relative unimportance of regulating NOx on this unit.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par

c: Charles Jenkins, Farmland
Gerald Kissel, FDEP Tampa

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-05

August 21, 1995

Mr. A. A. Linero
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Farmland Hydro, L.P.
Sulfuric Acid Production Increase
AC 53-265755 and PSD-FL-225

Dear Mr. Linero:

This is in response to FDEP's Intent to Issue a construction permit for the above referenced project.

We appreciate the effort of the FDEP staff in preparing a well drafted and concise permit for the proposed project. We have only one comment on the FDEP's draft permit. It is our understanding that Specific Condition 1 refers to the sulfuric acid plants and the associated molten sulfur system addressed in this project review, and covered under PSD-FL-225.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par

c: Charles Jenkins, Farmland

CC: John Reynolds
Cleve Holladay

Farmland Hydro, L.P.

FAXED 8/21/95

Charles W. Jenkins
Manager
Environmental/Safety Services

RECEIVED
AUG 23 1995
Bureau of
Air Regulation

August 21, 1995

Mr. John Reynolds
Department of Environmental Protection
Bureau of Air Regulations
2600 Blairstone Road
Tallahassee, Florida 32399-2400

RE: AFFIDAVIT OF PUBLICATION

Dear Mr. Reynolds:

Please find enclosed the Affidavit of Publication of Intent to Issue. This is Construction Permit #AC53-265755.

If you have any questions, please contact me at (941) 533-1141, Ext. 334.

Sincerely,

Charles W. Jenkins

Charles W. Jenkins
Manager,
Environmental and Safety Services

Enclosures

CWJ:mmb/cwj12795

CC: B. Thomas
R. Harwood
NPS
EPA
Koosler

AFFIDAVIT OF PUBLICATION

THE LEDGER
Lakeland, Polk County, Florida

Case No .....

STATE OF FLORIDA)
COUNTY OF POLK)

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

...Notice..of..Intent.....

.....

in the matter of .....

PSD FL 225

.....

in the .....

.....

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

August 12;

.....

1995

.....

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 .....
Classified Advertising Manager

by Robert E. Lee who is personally known to me

Sworn to and subscribed before me this 12th

day of August A.D. 19 95

(Seal) .....
Notary Public
BARBARA THIGPEN

My Commission Expires .....
Farmland Industries
Charles Jenkins

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
BARBARA THIGPEN
COMMISSION NUMBER
CC427638
MY COMMISSION EXP.
DEC. 19,1998

Attach Notice Here

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT
PSD-FL-225

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit to Farmland Hydro, L.P., County Road 640 West, Bartow, Florida 33830. This company operates a phosphate fertilizer manufacturing facility at that address. The permit will allow the combined total sulfuric acid production rate of the Nos. 3, 4 and 5 plants to be increased from a total of 5,640 to 7,000 tons per day with only minor physical modifications required. A determination of Best Available Control Technology (BACT) was required since the proposed project is subject to Prevention of Significant Deterioration (PSD) regulations. BACT consists of employment of the Dual Absorption Process plus high efficiency mist eliminators. Modeling results indicate that the proposed project is not expected to cause or significantly contribute to any violation of the ambient air quality standards. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application/request 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
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
8407 Laurel Fair Circle
Tampa, Florida 33619

Any person may send written comments on the proposed action to Administrator, New Source Review Section, Bureau of Air Regulation at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.
F166 - 8-12-1995

F 166

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-07

August 21, 1995

RECEIVED
AUG 23 1995
Bureau of
Air Regulation

Mr. Clair H. Fancy
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Additional Information for
Permit Amendment Request
Farmland Hydro, L.P.

Dear Mr. Fancy:

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3. The permit allows adjustment of the NOx emission rate if warranted based on future tests. This provision was included in recognition of Item 1 above. It also reflects the relative unimportance of regulating NOx on this unit.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par

c: Charles Jenkins, Farmland
Gerald Kissel, FDEP Tampa

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

August 3, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. C. M. Farris
Vice President - Operations
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Dear Mr. Farris:

Enclosed is a copy of the Technical Evaluation and Preliminary Determination, Best Available Control Technology (BACT) determination, Intent to Issue, and proposed permit for Farmland Hydro, L.P. to increase the production rate of the Nos. 3, 4 and 5 sulfuric acid plants at their Bartow facility, Polk County, Florida. Also included is the Notice of Intent to Issue for you to publish as indicated.

Please submit any written comments to be considered concerning the Department's proposed action to Mr. A. A. Linero at the above address. If you have any questions, please call Mr. John Reynolds at 904-488-1344.

Sincerely,

A. A. Linero, P.E. for

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

CHF/jr/t

Enclosures

cc: W. Thomas, SWD
R. Harwood, Polk Co.
J. Harper, EPA
J. Bunyak, NPS
J. Koogler, K&A

Best Available Copy

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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:
C M Farris, VP
Farmland Hydro, LP
County Rd 640 West
Bartow, Fl 33830

4a. Article Number
Z 392 979 015

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

7. Date of Delivery
8/7/95

5. Signature (Addressee)
Linda Thompson

6. Signature

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

PS

Thank you for using Return Receipt Service.

Z 392 979 015

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

PS Form 3800, March 1993

Sent to: C M Farris	
Street and No.: Farmland Hydro	
P.O., State and ZIP Code: Bartow, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: 8-3-95	

AC 53-265755
PSD-FL-225

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of an
Application for Permit by:

DEP File No. PSD-FL-225
AC 53-265755
Polk County

Mr. C. M. Farris
Vice President - Operations
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830
_____/

INTENT TO ISSUE

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy attached) for the applicant's facility as detailed in the application specified above for the reasons stated in the Technical Evaluation and Preliminary Determination.

The applicant, Farmland Hydro, L.P., applied on May 11, 1995, to the Department for a permit to increase the combined total production of their sulfuric acid plants, Nos. 3, 4, and 5, from 5,640 to 7,000 tons per day. The facility is located in Polk County.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The project is not exempt from permitting procedures. The Department has determined that a permit is required for the proposed project.

Pursuant to Section 403.815, F.S., and Rule 62-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "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. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
(d) A statement of the material facts disputed by Petitioner, if any;
(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under

Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

A. A. Linero, P.E. for
C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that all copies of this **INTENT TO ISSUE PERMIT** were mailed by certified mail before the close of business on 8-3-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kyra Tober 8-3-95
Clerk Date

Copies furnished to:
W. Thomas, SWD
R. Harwood, Polk Co.
J. Harper, EPA
J. Bunyak, NPS
J. Koogler, K&A

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF INTENT TO ISSUE PERMIT

PSD-FL-225

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit to Farmland Hydro, L.P., County Road 640 West, Bartow, Florida 33830. This company operates a phosphate fertilizer manufacturing facility at that address. The permit will allow the combined total sulfuric acid production rate of the Nos. 3, 4 and 5 plants to be increased from a total of 5,640 to 7,000 tons per day with only minor physical modifications required. A determination of Best Available Control Technology (BACT) was required since the proposed project is subject to Prevention of Significant Deterioration (PSD) regulations. BACT consists of employment of the Dual Absorption Process plus high efficiency mist eliminators. Modeling results indicate that the proposed project is not expected to cause or significantly contribute to any violation of the ambient air quality standards. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application/request 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
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
8407 Laurel Fair Circle
Tampa, Florida 33619

Any person may send written comments on the proposed action to Administrator, New Source Review Section, Bureau of Air Regulation at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

Technical Evaluation
and
Preliminary Determination

Farmland Hydro, L.P.
Bartow, Polk County, Florida

SULFURIC ACID PRODUCTION INCREASE
SAP Nos. 3, 4 and 5

Department File No.: AC 53-265755
PSD-FL-225

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

August 3, 1995

I. General Information

A. Applicant

Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

B. Request

On February 21, 1995, the applicant submitted an application for a permit to increase the production rate of the existing No. 3, 4 and 5 sulfuric acid plants from 5640 to 7000 tons per day (TPD). The application was considered complete on May 11, 1995, when the Department received additional information requested.

C. Classification

The applicant's facility (SIC 2819) is located at County Road 640 West in Bartow, Polk County, Florida. The UTM coordinates for this facility are Zone 17, 410.3 km E and 3079.7 km N.

II. Project Description/Emissions

The applicant proposes to increase the total production of the No. 3, 4 and 5 sulfuric acid plants from 5,640 tons per day (TPD) to 7,000 TPD. The proposed project will increase each plant's daily sulfuric acid production rate which will increase the allowable emissions of sulfur dioxide (SO_2) and sulfuric acid mist (SAM) as shown below:

Plant	Present Capacity (TPD)	New Capacity (TPD)	Present SO_2 Allowable (TPY)	New SO_2 Allowable (TPY)	Present SAM Allowable (TPY)	New SAM Allowable (TPY)
3	1,620	2,100	1,183	1,533	44.3	57.5
4	1,620	2,100	1,183	1,533	44.3	57.5
5	2,400	2,800	1,752	2,044	65.7	76.7
Total	5,640	7,000	4,118	5,110	154.3	191.7

The production increase will be accomplished with no major equipment changes. Catalyst will be added as necessary and one of the smaller heat exchangers in the No. 5 plant will be replaced with a larger unit. A comparison of total allowable emissions with the two-year average actual representative emissions shows significant increases in SO_2 and SAM. An insignificant increase in NOx is presumed based on a previously-assumed NO_x emission factor of 0.12 lb/ton x 1,360 ton/day x 365 days/yr x ton/2000 lb = 29.8 tons/yr < 40 tons/yr:

	TPY SO_2	TPY SAM
New Allowables	5,110.0	191.7
Two-Year Actuals (8,460 hr/yr avg)	2,160.6	114.6
Increase for PSD Significance	2,949.4 > 40	77.1 > 7

The amount by which the allowables exceed actual emissions might suggest the need for lower allowables in the BACT determination. However, in cases such as this where the process itself is the "control device", a lower allowable limit does not of itself force lower emissions. In a typical sulfuric acid plant, SO_2 emissions are lowest just after a catalyst change and gradually rise as the catalyst loses reactivity. Continuous emission monitoring data typically show that SO_2 emissions start out very low after a catalyst change and then may rise to near the new source performance standard (4.0 lb/ton) at the end of the catalyst's life. The effect of lowering the allowable limit would be to require more frequent catalyst changes at greatly increased costs which would likely be prohibitive.

III. Rule Applicability

The construction permit application is subject to review under the provisions of Chapter 403, Florida Statutes, and Chapters 62-209 through 62-297, Florida Administrative Code (F.A.C.). The facility is located in an area designated as attainment for each of the regulated air pollutants. The proposed project is subject to the Prevention of Significant Deterioration Regulations, Rule 62-212.400, F.A.C., because the emissions increases of sulfur dioxide and acid mist from the sulfuric acid plants exceed the significant emission rates listed in Table 212.400-2 of Rule 62-212, F.A.C. Preconstruction review must include a determination of Best Available Control Technology (BACT) pursuant to Rule 62-212.410, F.A.C. The applicant is also subject to the other preconstruction review requirements listed in Rule 62-212.400, F.A.C. In addition, the proposed modifications are subject to 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid Plants.

IV. Air Quality Analysis

A. Introduction

As stated in Section II, the production rate increases due to the proposed project will result in emissions increases which are projected to be greater than the PSD significant rates for SO_2 and SAM. The air quality impact analyses required by the PSD regulations for these pollutants include:

- An analysis of existing air quality.
- A PSD increment analysis for SO_2.
- An Ambient Air Quality Standards (AAQS) analysis.
- An analysis of impacts on soils, vegetation, visibility, and growth-related air quality impacts.
- A Good Engineering Practice (GEP) stack height determination

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

Based on these required analyses, the Department has reasonable assurance that the projected production rate increase, 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 PSD increment or AAQS. 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 modeling procedure and required analyses follows.

B. Analysis of the Existing Air Quality and Determination of Background Concentrations

Preconstruction ambient air quality monitoring may be required for pollutants subject to PSD review. However, 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. If the projected emissions increase is greater than the de minimus concentration, previously existing representative monitoring data may be used to satisfy the preconstruction monitoring requirement instead of preconstruction ambient air quality monitoring.

However, even if preconstruction ambient monitoring is exempted, determination of background concentrations 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 previously 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 predicted maximum concentration increase for SO_2 is given in Table 1.

There are no monitoring de minimus concentrations for SAM. As shown in Table 1, the predicted impact for SO_2 is greater than the corresponding de minimus concentration; therefore, preconstruction monitoring is required for SO_2.

There are previously existing representative SO2 monitoring data in the vicinity of the proposed project. Data from the SO2 monitor in Mulberry were used to satisfy the preconstruction monitoring requirement. In addition, the Department established a background concentration of 9 ug/m3 for all averaging times from 1994 data collected at this monitor.

C. Modeling Procedure

The EPA-approved Industrial Source Complex Short-Term (ISCST2) dispersion model was used to evaluate the pollutant emissions from the proposed project and other existing major facilities. The model determines ground-level concentrations of 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 ISCST2 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 in each modeling scenario. Direction-specific downwash parameters were used for all sources for which downwash was considered.

Initially, for the significant impact analysis, concentrations were predicted at polar receptors placed along 36 standard radial directions (10 degrees apart) surrounding the sulfuric acid plants at the following downwind distances: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 7.5, 10.0, 15.0, 20.0, and 25.0 km. The results of this analysis showed that the increases in ambient ground-level SO_2 concentrations were significant out to 25.0 km, thus requiring the applicant to do a full impact analysis for comparison with the AAQS and the PSD Class II SO_2 increments.

The receptor grids for both the AAQS and PSD Class II analyses contained polar and discrete receptors. Receptors were placed along 36 standard radial directions surrounding the sulfuric acid plants at the following downwind distances: 3.0, 4.0, 5.0, 7.5, 10.0, 13.0, 15.0, 20.0 and 25.0 km. In addition, a total of 240 discrete receptors were placed along the plant boundary.

Impacts for the PSD Class I Chassahowitzka National Wilderness Area (NWA) were predicted at 13 standard discrete receptors approved by the Department. This Class I area is located 110 km to the northwest of Farmland.

Five years of sequential hourly surface and mixing depth data from the Tampa, Florida National Weather Service collected during 1987 through 1991 were used in this model. Since five years of data were used, the highest-second high, short-term predicted concentrations are compared with the appropriate ambient air quality standards or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards.

D. AAQS Analysis

For the pollutants subject to an AAQS review, the total impact on ambient air 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. The results of the AAQS analysis for SO_2 are summarized in Table 3. As shown in this table, emissions from the proposed project are not expected to cause or contribute to a violation of an AAQS.

E. PSD Increment Analysis

1. Class II Area

The PSD increment represents the amount that new sources in an area may increase predicted ambient ground level concentrations of a pollutant. Atmospheric dispersion modeling, as previously described, was performed to quantify the amount of PSD increment consumed. The results, summarized in Table 4, show that the maximum SO_2 increment consumption will not exceed the allowable Class II PSD increments.

2. Class I Area

The nearest PSD Class I area is the Chassahowitzka National Wilderness Area located 110 km northwest of the facility. Maximum SO_2 concentrations predicted for the proposed modification only at receptors in this area show impacts greater than the National Park Service (NPS) recommended significance levels for all averaging times, as shown in Table 5. Therefore, for these averaging times, a more extensive PSD Class I modeling analysis was performed using all increment-consuming sources in the area of the CWNA. The results of this analysis are shown in Table 6. The maximum predicted 3-hour and 24-hour concentrations due to all increment-consuming sources in the vicinity of this Class I area exceed the PSD Class I increments on numerous occasions. In order to assess the proposed modification's contribution to any predicted Class I exceedances, an analysis was performed to determine all time periods and receptors at which an exceedance was predicted to occur. For each case, the proposed modification's impact was determined and compared to the NPS recommended significance levels. The impact of the proposed modification was always less than these significance levels at any receptor and for any time period when there were predicted exceedances or violations of increments. Therefore, the proposed modification will not contribute significantly to any predicted exceedance or violation of Class I increments and may be permitted by Department rules.

F. Non-criteria pollutants

SAM is a non-criteria pollutant, which means that neither a national AAQS nor a PSD increment has been defined for this pollutant; therefore, no air quality dispersion modeling was done for SAM. Instead, SAM emissions for this project will be controlled by the BACT.

G. Additional Impacts Analysis

The applicant did an air quality related values (AQRV) analysis for both the PSD Class II area near the facility and for the Chassahowitzka Class I area located 110 km to the northwest of the project. The increased emissions from the project are not expected to impact the AQRVs of either area. The AQRV analysis includes impacts on vegetation, soils, wildlife and visibility. In addition, 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.

V. Conclusion

Based on the information provided by Farmland Hydro, L.P., the Department has reasonable assurance that the proposed project, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapters 62-209 through 62-297 of the Florida Administrative Code.

Table 1. Maximum Project Air Quality Impacts for Comparison to the De Minimus Ambient Levels.

Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	De Minimus Level (ug/m^3)
SO_2	24-hour	17	10

1. Highest, second-highest value over a five year period for 24-hour averaging time.

Table 2. Maximum Project Air Quality Impacts for Comparison to the PSD Class II Significant Impact Levels.

Pollutant	Avg. Time	Max Predicted Impact[1] (ug/m^3)	Significant Impact Level (ug/m^3)
SO_2	Annual	1.5	1
	24-hour	21.4	5
	3-hour	66.7	25

1. Highest, high value over a five year period for all averaging times.

Table 3. Ambient Air Quality Impacts

Pollutant	Averaging Time	Major Sources Impact[1] (ug/m^3)	Background Conc. (ug/m^3)	Total Impact (ug/m^3)	Florida AAQS (ug/m^3)
SO_2	Annual	50	9	59	60
	24-hour	245	9	254	260
	3-hour	761	9	770	1300

1. Highest, second-highest value over a five year period for 3-hour and 24-hour averaging times.

Table 4. PSD Class II Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
SO_2	Annual	0	20
	24-hour	44	91
	3-hour	180	512

1. Highest, second-highest value over a five year period for 3-hour and 24-hour averaging times.

Table 5. Maximum Project Air Quality Impacts for Comparison to the PSD Class I Significant Impact Levels

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	National Park Service (NPS) Significant Impact Level (ug/m^3)
SO_2	Annual	0.06	0.025
	24-hour	0.82	0.07
	3-hour	5.48	0.48

1. Highest, high value over a five year period for all averaging times.

Table 6. PSD Class I Increment Analysis

Pollutant	Averaging Time	Max. Predicted Impact[1] (ug/m^3)	Allowable Increment (ug/m^3)
SO_2	Annual	0	2
	24-hour	6.3[2]	5
	3-hour	34.7[2]	25

1. Highest, second-highest value over a five year period for 3-hour and 24-hour averaging times.
2. The project has less than significant impacts for all predicted exceedances of SO_2 increments.

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Permit Number: AC 53-265755
PSD-FL-225
Expiration Date: Dec. 31, 1996
County: Polk
UTM Coordinates: 17-410.3 km E
17-3079.7 km N
Project: Sulfuric Acid Plant Production Increase

This permit is issued under the provisions of Chapter 403, Florida Statutes; Chapters 62-210, 212, 272, 296 and 297, Florida Administrative Code (F.A.C.); and, Chapter 62-4, F.A.C. The above named permittee is hereby authorized to perform the work or operate the emission unit/source shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and specifically described as follows:

For the increase in production rate of the Nos. 3, 4 and 5 sulfuric acid plants from a total of 5,640 tons of sulfuric acid product/day to 7,000 tons/day. No major physical changes are required for this modification. The sources are located at the permittee's facility in Bartow, Polk County, Florida.

The modification shall be in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application received February 21, 1995
2. Department's letter dated March 22, 1995
3. USDOI's letter dated March 29, 1995
4. Koogler & Assoc. letter dated May 10, 1995
5. Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants, 1989

GENERAL CONDITIONS:

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.

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, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any 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 of 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.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement 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.

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.

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

GENERAL CONDITIONS:

auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

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 any 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.

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.

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.

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

GENERAL CONDITIONS:

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.

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.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-30.300, 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.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(x) Determination of Best Available Control Technology (BACT)
(x) Determination of Prevention of Significant Deterioration (PSD)
(x) Compliance with New Source Performance Standards (NSPS)

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

GENERAL CONDITIONS:

for 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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

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.

SPECIFIC CONDITIONS:

1. Unless otherwise indicated, the subject modification shall be in accordance with the capacities and specifications stated in the application.

2. The maximum production rates for the Nos. 3 and 4 sulfuric acid plants shall be 2,100 tons/day each while that for the No. 5 sulfuric acid plant shall be 2,800 tons/day, based on 100% sulfuric acid (H_2SO_4). [Rule 62-212.200(56), F.A.C.]

3. The Nos. 3, 4 and 5 sulfuric acid plants may operate on a full-time basis (8,760 hours per year). [Rule 62-212.200(56), F.A.C.]

4. Emissions of sulfur dioxide (SO_2), sulfuric acid mist (SAM) and visible emissions (VE) from the Nos. 3, 4 and 5 sulfuric acid plants shall not exceed the following limits [Rule 62-212.410, F.A.C.]:

	SO_2		SAM		VE
Plant	lb/hr	TPY	lb/hr	TPY	%
3	350	1,533	13.1	57.5	10
4	350	1,533	13.1	57.5	10
5	467	2,044	17.5	76.7	10

SPECIFIC CONDITIONS:

5. Before this permit expires, performance testing of emissions from each unit shall be conducted with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then emission units may be tested at less than 90% of the maximum operating rate allowed by the permit. In this case, subsequent emission unit operation is limited to 110% of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities (with prior notification provided to the Department) is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. [Rule 62-297.340(1)(a), F.A.C.]

6. Performance testing shall be conducted and compliance determined using the test methods and procedures set forth in 40 CFR 60.85(a) through (c). Pursuant to Rule 62-297.340(1)(i), the Department's Southwest District office shall be notified in writing 15 days prior to performance testing. Pursuant to Rule 62-297.570(1) and (2), written reports of the test results shall be submitted to that office within 45 days of test completion.

7. A continuous monitoring system for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained as described in 40 CFR 60.84(a) through (e). [Rule 62-296.800, F.A.C.; 40 CFR 60.84]

8. Objectionable odors associated with air emissions shall be prohibited. [Rule 62-296.320(2), F.A.C.]

9. Pursuant to Rule 62-210.700(1), F.A.C., excess emissions from the sulfuric acid plants resulting from startup, shutdown, malfunction, or load change 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 three hours in any 24-hour period unless specifically authorized by the Department for a longer duration. Best operational start-up practices shall be followed as described in the attached Memorandum of Understanding signed in 1989.

10. Stack sampling facilities shall be provided by the permittee in accordance with Rule 62-297.345, F.A.C.

SPECIFIC CONDITIONS:

11. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rule 62-4.090, F.A.C.].

12. An application for an operation permit must be submitted to the Department's Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. The operation permit application shall include a set of conditions acceptable to the Department for startup/shutdown of the permittee's sulfuric acid plant. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit. [Rules 62-4.055 and 62-4.220, F.A.C.].

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
Virginia B. Wetherell, Secretary

Best Available Control Technology (BACT) Determination
Farmland Hydro, L.P.
Polk County
Permit Number AC 53-265755
PSD-FL-225

The applicant proposes to increase the total production of the No. 3, 4 and 5 Sulfuric Acid Plants (SAP) from 5,640 tons per day (TPD) to 7,000 TPD at the applicant's phosphate fertilizer manufacturing facility on County Road 640 West in Polk County, Florida. The proposed project will result in a significant increase in emissions of sulfur dioxide (SO_2) and sulfuric acid mist. 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.). The BACT determination is part of the PSD review requirements in accordance with Rule 62-212.410, F.A.C.

Date Application Received: February 21, 1995

Date Application Complete: May 11, 1995

BACT Determination Proposed by Applicant:

Control Technology: Double Absorption/Fiber Mist Eliminators

Emission Limits: SO_2: 4 lbs/ton of 100% H_2SO_4 produced
Acid Mist: 0.15 lb/ton of 100% H_2SO_4 produced
Visible Emissions: 10% opacity

BACT Determination Procedure:

In accordance with Chapter 62-212, F.A.C., this determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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.

BACT Determined by the Department:

Same as proposed by applicant

BACT Determination Rationale

The Department's BACT determination is the same as that proposed by the applicant. This is consistent with determinations completed by other states and the Standards of Performance for Sulfuric Acid Plants, 40 CFR 60 Subpart H, (double absorption process). The process itself is the control technology for SO_2. For this reason, more stringent limits have not been required. The emission limits reflect a conversion efficiency of around 99.4% of SO_2 to H_2SO_4. High efficiency mist eliminators are considered BACT for sulfuric acid mist. BACT/LAER Clearinghouse information indicates that double absorption technology and the use of high efficiency mist eliminators are representative of BACT using the top-down approach.

Environmental Impact Analysis

The impact analysis for the BACT determination is based on full-time operation (8,760 hours/year). The increment impact analysis and the ambient air quality analysis resulted in the following for SO_2 emissions:

Avg Time	Increment Impact (ug/m^3)	Allowable Increment (ug/m^3)	Predicted Ambient Air Quality Impact (ug/m^3)	Fla. AAQS (ug/m^3)
24-hr	44	91	254	260
3-hr	180	512	770	1300

Conclusion

The incremental impact and the ambient air quality impact from SO_2 emissions due to the proposed modification is in compliance with all air pollution regulations. It is concluded that the emission limits established herein represent BACT.

BACT Analysis Details Available From:

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

Recommended by:

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

_____, 1995
Date

Approved by:

Virginia B. Wetherell, Secretary
Dept. of Environmental Protection

_____, 1995
Date

MEMORANDUM OF UNDERSTANDING
REGARDING BEST OPERATIONAL START-UP PRACTICES
FOR SULFURIC ACID PLANTS

The parties jointly agree: for the purposes of Rule 17-2.250, the foregoing practices constitute "best operational practices" for the start-up of sulfuric acid plants.

The Department will not seek to incorporate these practices into permits for existing facilities during the first 18 months after implementation. After the expiration of this 18-month period, which is a typical catalyst cycle, the Department may seek to modify the permits, in accordance with Rule 17-4.080 and other applicable laws, to incorporate appropriate site-specific start-up procedures as enforceable permit conditions.

These Sulfuric Acid Plant Best Operation Start-Up Practices will be made available in the control room at all times.

Since these specific procedures are undergoing evaluation, the Department will not consider these practices to be the only means of demonstrating best operating procedures. If a company chooses to use another method, it will be its responsibility to demonstrate that it constitutes best operational practices in accordance with 17-2.250, F.A.C.

BEST OPERATIONAL START-UP PRACTICES
FOR SULFURIC ACID PLANTS

1. Only one sulfuric acid plant at a facility should be started up and burning sulfur at a time. There are times when it will be acceptable for more than one sulfuric acid plant to be in the start-up mode at the same time, provided the following condition is met. It is not acceptable to initiate sulfur burning at one sulfuric acid plant when another plant at the same facility is emitting SO_2 at a rate in excess of the emission limits imposed by the permit or rule, as determined by the CEMs emission rates for the immediately preceding 20 minutes.

2. A plant start-up must be at the lowest practicable operating rate, not to exceed 70 percent of the designated operating rate, until the SO_2 monitor indicates compliance. Because production rate is difficult to measure during start-up, if a more appropriate indicator (such as blower pressure, furnace temperature, gas strength, blower speed, number of sulfur guns operating, etc.) can be documented, tested and validated, the Department will accept this in lieu of directly documenting the operating rate. Implementation requires the development of a suitable list of surrogate parameters to demonstrate and document the reduced operating rate on a plant-by-plant basis. Documentation that the plant is conducting start-up at the reduced rate is the responsibility of the owner or operator.

3. Sulfuric acid plants are authorized to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices, in accordance with this agreement, to minimize emissions are followed. No plant shall be operated (with sulfur as fuel) out of compliance for more than three consecutive hours. Thereafter, the plant shall be shut down. The plant shall be shut down (cease burning sulfur) if, as indicated by the continuous emission monitoring system, the plant is not in compliance within three hours of start-up. Restart may occur as soon as practicable following any needed repairs or adjustments, provided the corrective action is taken and properly documented.

4. Cold Start-Up Procedures.

a. Converter.

(1) The inlet and outlet temperature at the first two masses of catalyst shall be sufficiently high to provide immediate ignition when SO_2 enters the masses. In no event shall the inlet temperature to the first mass be less than 800°F or the outlet temperature to the first two masses be less than 700°F.

These temperatures are the desired temperatures at the time the use of auxiliary fuel is terminated.

(2) The gas stream entering the converter shall contain SO_2 at a level less than normal, and sufficiently low to promote catalytic conversion to SO_3.

b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H_2SO_4.

5. Warm Restart.

a. Converter.

The inlet and outlet temperatures of the first two catalyst masses should be sufficiently high to ensure conversion. One of the following three conditions must be met:

(1) The first two catalyst masses inlet and outlet temperatures must be at a minimum of 700°F; or

(2) Two of the four inlet and outlet temperatures must be greater than or equal to 800°F; or

(3) The inlet temperature of the first catalyst must be greater than or equal to 600°F and the outlet temperature greater than or equal to 800°F. Also, the inlet and outlet temperatures of the second catalyst must be greater than or equal to 700°F.

Failure to meet one of the above conditions, requires use of cold start-up procedures.

To allow for technological improvements or individual plant conditions, alternative conditions will be considered by the Department in appropriate cases.

b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H_2SO_4.

Steve Smallwood, P.E. Date 10-16-89
Director, Division of Air Resources Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Gardinier, Inc., Plant Manager Date 10/25/89

ATTACHMENTS PROVIDED UPON REQUEST

FAXed to Clere
6/2/95

Farmland Hydro L.P.
Scaling Factor for Annual ASI Analysis
02-Jun-95

No 3 Sulfuric Acid Plant

Year	Hours of Operation
1991	8488
1992	8362
Average =	8425

No 4 Sulfuric Acid Plant

Year	Hours of Operation
1992	8398
1993	8544
Average =	8471

Average of No 3 & 4 sulfuric Acid Plants
(8425 + 8471)/ 2 = 8448

Scaling Based on 1 year (8760 hours) of Operation

8448/8760 = 0.964384 96%

2.0 ACTUAL EMISSION RATE CALCULATIONS

2.1 No. 3 SULFURIC ACID PLANT

Operating hours for the past five years:

YEAR	PLANT OPERATING HOURS
1990	8337
1991	8488*
1992	8362*
1993	8276
1994	Not available
Average	8425*

* Representative years

SO_2 = (236.3 + 77.7)/2 lbs/hr = 157
x 8425 hrs/yr x ton/2000 lbs
= 661.4 TPY

SAM = (6.9 + 3.8)/2 lbs/hr = 5.75
x 8425 hrs/yr x ton/2000 lbs
= 22.5 TPY

NOx emissions based on the nominal permitted production rate and a NOx emission factor used previously by FDEP of 0.12 lb/ton:

NOx = 67.5 tons/hr x 0.12 lb/ton
= 8.1 lbs/hr
x 8425 hrs/yr x ton/2000 lbs
= 34.1 TPY

2.2 No. 4 SULFURIC ACID PLANT

Operating hours for the past five years:

YEAR	PLANT OPERATING HOURS
1990	7977
1991	8349
1992	8398*
1993	8544*
1994	Not available
Average	8471*

* Representative years

SO_2 = (140.2 + 188.3)/2 lbs/hr = 164.25
x 8471 hrs/yr x ton/2000 lbs
= 695.7 TPY

SAM = (2.9 + 6.3)/2 lbs/hr = 4.6
x 8471 hrs/yr x ton/2000 lbs
= 19.5 TPY

NOx emissions based on the nominal permitted production rate and a NOx emission factor used previously by FDEP of 0.12 lb/ton:

NOx = 67.5 tons/hr x 0.12 lb/ton
= 8.1 lbs/hr
x 8471 hrs/yr x ton/2000 lbs
= 34.3 TPY

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

Project 123-94-05

FAX

To: CLEVE HOLLADAY
DARM

Fax #: 904 922-6979

From: MARK KOLETZKE

Date: JUNE 2 '95 Sent by:

Fax Phone: 904-377-7158 Voice Phone: 904-377-5822

The text being transmitted consists of 3 pages PLUS this one.

REMARKS:

HI CLEVE:

THESE ARE THE OPERATING HOURS USED TO CALCULATE THE 96% SCALING FACTOR FOR N°3 & 4 H2SO4 PLANT.

THE LAST TWO PAGES ARE FROM A LETTER DATED FEB 14 95 (PERMIT APPLICATION)

ILL CALL LATER TO CHECK THAT EVERYTHING AROUND OKAY

MARK

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-05

May 10, 1995

Mr. A. A. Linero
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Farmland Hydro, L.P.
Sulfuric Acid Production Increase
AC 53-265755 and PSD-FL-225

Dear Mr. Linero:

This is a follow up to your letter dated March 22, 1995, requesting additional information on the above referenced project. Responses to the questions raised by FDEP are presented below along with responses to the issues raised by the Fish and Wildlife Service.

1. Building downwash impacts and impacts from the molten sulfur system were not included in the air quality modeling analysis. Please evaluate these impacts and do any additional modeling that is necessary to complete this analysis.

RESPONSE:

The modeling for Farmland's proposed project has been updated to include building wake effects and the molten sulfur system. The results of the modeling indicate that building wake effects do influence the maximum predicted impacts. The modeling output is provided on disk. A summary of the revised modeling results is presented in Attachment 1.

2. In order for a modeling analysis to show attainment of AAQS, you must add a representative background concentration to the modeled concentrations. You did not include this concentration in your analysis. This background concentration should be representative of the overall air quality entering the region and of any sources which were not explicitly modeled (i.e., natural and unidentified sources). Normally, this concentration is a non zero value and is based on air quality monitoring data collected in the vicinity of a proposed project or source. In order to minimize doubling counting of modeled source impacts, we have chosen a background concentration value from the SO_2 monitor located in Mulberry. This suggested value is 9 $\mu g/m^3$ for all averaging times and is based on the annual average obtained from 1994 data collected at this monitor. You should add this value to the modeled concentrations for all averaging times.

RESPONSE:

It should be noted that the ambient air impact analysis already accounts for the ambient air SO_2 concentration contributions from significant SO_2 emitting facilities in the vicinity of the project. It is our opinion that adding a SO_2 background concentration to the maximum predicted ambient air quality impacts leads to extensive double counting of impacts from the largest nearby facilities. However, in order to expedite the permit application processing for the proposed project, a background ambient air concentration of 9 micrograms per cubic meter, suggested by FDEP, is included in the ambient air impact analysis. The resulting maximum predicted SO_2 ambient air concentrations are presented in Table 3 (attached).

3. The annual area of significant impact modeling should be based on the difference between the proposed emissions and the actual annual hourly emissions. Please redo the annual area of significant impact modeling using the correct inputs. If the area of significant impact becomes larger because of the corrected results, please redo any modeling impacted by the correction.

RESPONSE:

After extensive discussions with EPA and FDEP staff, the emission rates representing the actual emissions for the existing sulfuric acid plants were used in the modeling, in accordance with Table 9-1 in the Guidelines on Air Quality Models (Revised), EPA-450/2-78-027R, to determine the net ambient air impacts from the proposed project. As prescribed by the modeling guidelines, an operating factor was determined to reflect the most recent two years of operation. It should be noted that the ultimate outcome of the revised modeling is no different than that of the previously submitted modeling analysis.

4. The National Park Service has requested a regional haze visibility analysis. Please submit a regional haze analysis and follow the guidance found in the EPA document Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 1 Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility (EPA-454/R-93-015, April 1993). This analysis should consider the proposed increases in SO_2, H_2SO_4, and PM-10 emissions. A visual range of 65 km should be used in the analysis. This visual range is derived from data collected from the IMPROVE (Interagency Monitoring of Protected Visual Environments) fine particle sampler at Chassahowitzka National Wildlife Refuge and represents the 10 percent cleanest days at the refuge. Technical assistance in performing this analysis may be obtained from John Notar of the National Park Service's Air Quality Division in Denver, Colorado. His phone number is 303-969-2071.

RESPONSE:

The regional haze visibility analysis requested by the National Park Service is presented in Attachment 2. The emissions of sulfur dioxide and sulfuric acid mist were included in the analysis as requested by FDEP. There are no PM10 emissions from the sulfuric acid plants. The results of the analysis indicate that the proposed project is not expected to have a significant impact on the regional haze.

Other issues raised by the Fish and Wildlife Service:

5. The proposed emissions increases for the increase in sulfuric acid production are based on allowable (permitted) emission rates instead of actual emission rates. As you know, net emission increases must be based on actual, not allowable emissions. We ask that Farmland's proposed increases be revised accordingly.

RESPONSE:

The application does compare current actual emissions to proposed potential emissions. The applicant has an active request to FDEP and EPA to allow the comparison of either current vs. proposed "actuals" (as suggested by the NPS) or current vs. proposed "potentials". This approach would certainly make the evaluation equitable. However, both agencies indicated that such an approach may be possible only after the EPA introduces the much anticipated New Source Review Reform.

6. We do not agree that the proposed corresponding emission levels represent BACT. Test information provided in Farmland's application indicates that emission rates lower than the NSPS are achievable. In addition, other sulfuric acid facilities, including the IMC and Agrico facilities in Florida, have consistently demonstrated that levels lower than the NSPS are feasible. BACT for the General Chemical facility was recently set below the NSPS. We understand that past actual emission levels may not be achievable at the higher production rates; therefore, it is appropriate to obtain data over a reasonable amount of time to determine the BACT emission rate. We request that you set BACT for this facility at actual achievable emission rates as demonstrated during compliance tests or over a reasonable amount of operating time.

RESPONSE:

This particular issue has been discussed in great detail with the NPS, EPA, and FDEP staff over the last few years. The EPA has determined in the most recent review of the NSPS for sulfuric acid plants that a more

stringent standard is not justified. There is a wide consensus on the part of the regulatory agencies and the industry on this issue. The reason for the consensus is that neither the process design (sulfur dioxide emission control) nor add on control equipment (sulfuric acid mist emission control) have changed significantly in the recent past.

It is generally recognized that the sulfur dioxide emissions can be expected to be low just after plant turnaround (a maintenance cycle which is typically every 18 months), and much higher closer to a turnaround. The gradual deterioration of the catalyst used in the process contributes to higher emissions. The high cost associated with turnarounds (catalyst cost/labor cost/cost due to loss of production) makes it impractical to conduct frequent plant shut downs to replace the catalyst. This aspect of sulfuric acid production was noted by EPA in the review of the NSPS.

It should be noted that setting emission limits based on performance testing is not appropriate because that approach fails to address the variability in the emission rates over time. Also, a statistical determination of the emission limit based on a series of performance tests over time, to provide a 95th percentile confidence level, would likely yeild an emission rate in excess of the NSPS.

Imposing progressively lower emission limits on facilities subject to BACT may be valid for industries where emissions are controlled by add-on equipment or manufacturing processes which are subject to rapid or evolutionary changes. However, that rationale is not valid for the sulfuric acid manufacturing process. In discussions with suppliers of sulfuric acid plant equipment (Monsanto) and regulatory agencies (FDEP and EPA), the BACT for a double absorption sulfuric acid plant is 4 pounds of sulfur dioxide per ton acid; and, 0.15 pound acid mist per ton of acid.

Based on the above discussion, it is appropriate for FDEP to set BACT limits at the emission levels proposed; an evaluation supported by both the EPA and the NPS in the recent past.

7. We are concerned that the modeling analysis predicts numerous exceedances of the PSD Class I 3-hour and 24-hour SO_2 increments. We have expressed concern to you in the past regarding the short-term SO_2 increments, but as yet this issue has not been resolved. We agree with you that a more refined modeling analysis is required to determine the status of SO_2 increment consumption at Chassahowitzka WAS and urge that this analysis be undertaken as soon as possible.

Post-it® Fax Note 7671	Date 6/7/95	# of pages ▶ 9
To Ellen Porter	From Cleve Holladay	
Co./Dept. NPS	Co. Fla DEP	
Phone # 303-969-2617	Phone # 904-488-1344	
Fax # 303-969-2822	Fax #	

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

RESPONSE:

It is our undestanding from discussions with the NPS staff that this comment is directed to FDEP regarding on going efforts by the Department to generally refine the ambient air impacts protocol and emission inventories. The proposed project is expected to be approved upon FDEP's verification of the air impacts resulting from the proposed modification.

8. We would like to note that nonvascular species, such as lichens, are far more sensitive to SO_2 exposure than vascular plants. Certain lichen species are affected by SO_2 concentrations as low as 13 micrograms per cubic meter. We are currently compiling a list of lichen species at Chassahowitzka WA and will provide this information to you and to permit applicants as soon as it is available.

RESPONSE:

The referenced evaluation will certainly be conducted for future projects after the information is available from the NPS.

ADDITIONAL ISSUES

In addition to the proposed project as described in the permit application, Farmland recently decided to install a new 7500 ton molten sulfur storage tank at the existing facility. In discussions with FDEP staff, it was decided that although the installation of the new molten sulfur tank was not associated with the request for increase in sulfuric acid production rates, it would be appropriate to include it as part of the source modification request. Accordingly, information regarding the proposed tank and updated information on the molten sulfur system is presented in Attachment 3.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

cc: J. Reynolds
C. Holladay
NPS
EPA
L. Novak
J. Kissel

JBK:PAR:wa
Enc.

c: Charles Jenkins, Farmland

KOOGLER & ASSOCIATES

ATTACHMENT 1

SUMMARY OF REVISED AMBIENT AIR IMPACT ANALYSIS

KOOGLER & ASSOCIATES

TABLE 1

AIR QUALITY MODELING PARAMETERS
FOR SULFUR DIOXIDE

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Source ID	SO_2 (g/s)	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)
Existing					
3 SAP(1)	-33.58(2)	30.48	2.29	9.27	355
4 SAP	-33.58(2)	30.48	2.29	9.27	355
5 SAP	-50.40(2)	45.72	2.44	11.50	355
Sulfur Exist.	- 0.39	12.19	0.61	2.67	366
Proposed					
3 SAP	44.10	30.48	2.29	12.02	355
4 SAP	44.10	30.48	2.29	12.02	355
5 SAP	58.80	45.72	2.44	13.42	355
Sulfur Exist	0.39	12.19	0.61	2.67	366
Sulfur New	0.16	12.19	0.61	2.67	366

NOTES:

(1) SAP - Sulfuric Acid Plant.

(2) Emission rates of -32.23 g/s (for Plants 3 & 4), and -48.38 g/s (for Plant 5) were used for the annual period.

(3) Building wake effects were included in the modeling.

KOOGLER & ASSOCIATES

TABLE 2

SUMMARY OF SULFUR DIOXIDE SIGNIFICANT IMPACT ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

MET DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)* (1)					
	CLASS II AREA			CLASS I AREA		
	ANNUAL	3-HOUR	24-HOUR	ANNUAL	3-HOUR	24-HOUR
1987	1.32	56.1	20.2	0.03	3.71	0.71
1988	1.37	58.0	21.4	0.05	3.53	0.60
1989	1.42	53.0	17.1	0.06	5.48	0.82
1990	1.38	66.7	19.6	0.03	3.27	0.67
1991	1.48	57.7	19.6	0.03	2.71	0.56
Sig. Impact (Rule 62-212, FAC and NPS Guidelines)	1.0	25.0	5.0	0.025	0.48	0.07

NOTE:

(1) The impact represents the highest-high impact.

(2) The impacts are based on the net increase in sulfur dioxide emissions from the proposed project.

KOOGLER & ASSOCIATES

TABLE 3

SUMMARY OF CLASS II AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

MET. DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)					
	PSD INCREMENT			AAQS		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)	ANNUAL(1)	3-HOUR(2)	24 HOUR(2)
1987	0	163.3	40.8	49.6	761.3	244.0
1988	0	143.6	37.3	43.6	693.8	238.4
1989	0	147.0	35.1	43.3	672.6	235.1
1990	0	180.0	43.7	49.8	652.5	244.9
1991	0	148.8	39.1	48.7	627.9	230.5
MAXIMUM IMPACT	0	180.0	43.7	58.8(3)	770.3(3)	253.9(3)
INCREMENT & STD. (Rule 62-212 & 275, FAC)	20	512	91	60	1300	260

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) This predicted maximum impact includes a background concentration of 9.0 micrograms per cubic meter, to account for the ambient air impact of natural and unmodeled sources of sulfur dioxide emissions.

KOOGLER & ASSOCIATES

TABLE 4

SUMMARY OF CLASS I AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

METEOROLOGICAL DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$) ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	30.51 (3)	6.27 (3)
1988	0	34.74 (3)	5.60 (3)
1989	0	26.99 (3)	6.21 (3)
1990	0	22.92	5.63 (3)
1991	0	25.45 (3)	4.24
ALLOWABLE PSD INCREMENT (FAC RULE 62-275)	2	25	5

NOTES:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) Farmland's maximum contribution to impacts above the allowable Class I PSD increments, is zero (see impact contribution analysis provided on disk).

KOOGLER & ASSOCIATES

ATTACHMENT 2

REGIONAL HAZE VISIBILITY ANALYSIS

KOOGLER & ASSOCIATES

REGIONAL HAZE ANALYSIS

FARMLAND HYDRO, L.P.

POLK COUNTY, FLORIDA

CALCULATION BASIS:

1. Highest Class I area sulfur dioxide 24-hr impact	0.82
2. Highest Class I area sulfuric acid mist 24-hr impact	0.03012
3. Highest Class I area PM10 24-hr impact	0
4. Background visibility	65
5. Wind speed	2.792143
6. Max distance to Class I area (m)	130296.6
7. Relative humidity factor (RH)	3.5

CALCULATIONS:

Class I	Receptors	
-70030	86045	110941.2
-70030	88045	112499.4
-70030	90145	114150.4
-69630	92245	115574.6
-68330	94345	116490.2
-67330	96545	117704.1
-66630	98645	119039.5
-67930	100945	121673.2
-69230	103745	124723
-71330	103745	125900.7
-73830	103745	127333.8
-76330	103745	128799.4
-78830	103745	130296.6
	min dist	110941.2
	max dist	130296.6

Hour	Conversion	
	SO2	SO4
1	0.233	0.00699
2	0.22601	0.00678
3	0.21923	0.006577
4	0.212653	0.00638
5	0.206273	0.006188
6	0.200085	0.006003
7	0.194082	0.005822
8	0.18826	0.005648
9	0.182612	0.005478
10	0.177134	0.005314
11	0.17182	0.005155
12	0.166665	0.005
12.96	0.166665	0.0098
average	SO4 =	0.081135
conversion	=	35%

b(ext)a = 3.912/Background visibility,	0.0602
SO4(so2) = SO2 impact * 96/64,	1.2300
SO4(am) = 0.15/4 * SO2 impact * 96/98,	0.0301
NH4SO4 = 1.375 * (SO4(so2) + (SO4(am)),	1.7327
Transport time = Travel distance / wind speed,	12.9626
Conversion = Total conversion at 3% per hr / Total impact,	0.6033
b(ext)s = 0.003 * RH * NH4SO4 + PM10,	0.0063
dv, deciview change = 10 * ln(1+ b(ext)s / b(ext)a)),	**1.0**

REGIONAL HAZE ANALYSIS - Continued

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

	Meteorological Data		
Yr/Mo/Dy	wd (deg)	ws (m/s)	temp (K)
8910 6 1	320	2.57	298.7
8910 6 2	321	2.06	297
8910 6 3	305	2.06	295.9
8910 6 4	311	1.54	295.4
8910 6 5	320	2.06	295.4
8910 6 6	312	2.06	294.8
8910 6 7	291	2.06	294.8
8910 6 8	305	1.54	298.2
8910 6 9	331	3.09	299.8
8910 610	354	3.09	301.5
8910 611	326	5.14	302.6
8910 612	343	3.6	303.7
8910 613	4	3.6	304.8
8910 614	332	2.57	304.8
8910 615	332	3.09	305.4
8910 616	323	2.57	304.8
8910 617	88	3.09	304.3
8910 618	59	2.57	302.6
8910 619	45	2.57	301.5
8910 620	107	2.57	299.8
8910 621	213	1.54	298.7
8910 622	199	2.06	298.2
8910 623	226	2.06	298.2
8910 624	232	2.06	297.6
	average	2.792143	

ATTACHMENT 3

UPDATED INFORMATION ON MOLTEN SULFUR SYSTEM

Farmland Hydro, L.P., proposes to install a new 7500 ton molten sulfur storage tank at the existing Green Bay Complex. Farmland's existing molten sulfur system consists of a truck unloading pit; a rail unloading pit; a supply pit for sulfuric acid plants 3 and 4; a supply pit for sulfuric acid plant 5; two 2500 ton storage tanks; and, a 6000 ton storage tank. The new 7500 ton tank will provide storage capacity to accomodate irregularity in the molten sulfur brought in by rail. There will be no increase in the proposed sulfur feed rates to the sulfuric acid plants. However, there will be a provision for truck loadout from the existing truck pit. This unloading/loadout provision reflects higher potential system throughput rates of 4,100 tpd and about 1,500,000 tpy. The proposed equipment layout map and the process flow diagram are presented in Figures 1 and 2, respectively.

The new tank dimensions and venting configuration will be almost identical to the 6000 ton tank, except for a bigger diameter:

Wall height = 32.5 ft
Diameter = 74 ft
Vents = one 24-inch center vent; eight 10-inch rim vents.

Emission Changes

The original emission calculations submitted to FDEP established that estimated emissions from the molten sulfur system are determined by the pollutant concentration and ventilation rate. Given that the new tank will have the same pollutant concentrations and ventilation rates as the 6000 ton tank, the hourly emission rates will be the same for the two tanks. Using the methodology suggested by FDEP, the annual emissions can be estimated using the existing 6000 ton tank emission rate and a ratio of 7500/6000:

ESTIMATED NEW TANK EMISSIONS:

PM = 1.22 tpy x 7500/6000 = 1.5 tpy

TRS/H_2S = 1.14 tpy x 7500/6000 = 1.4 tpy

SO_2 = 3.10 tpy x 7500/6000 = 3.9 tpy

VOC = 2.22 tpy x 7500/6000 = 2.8 tpy

Using FDEP's suggested calculation method, the combined total estimated emissions from the molten sulfur system, as proposed, can be determined using existing emission rate and a ratio of proposed to existing throughput rates 1,500,000/670,000 (or 2.24):

TOTAL SULFUR SYSTEM ESTIMATED EMISSIONS :

PM = 7.71 tpy x 2.24 = 17.3 tpy

TRS/H_2S = 9.45 tpy x 2.24 = 21.2 tpy

SO_2 = 14.22 tpy x 2.24 = 31.9 tpy

VOC = 14.02 tpy x 2.24 = 31.4 tpy

The net emissions increase from the proposed project can be updated as follows:

Net Emission Change = Proposed Emissions - Actual Emissions

POLLUTANT	ESTIMATED EMISSIONS (TPY)					
	No.3	No.4	No.5	S.S.	TOTAL	NET
SO2 (1)	661.4	695.7	803.5	14.22	2174.8	
(2)	1533.0	1533.0	2044.0	31.9	5141.9	2967.1*
SAM (1)	22.5	19.5	34.4	-	76.4	
(2)	57.5	57.5	76.7	-	191.7	115.3*
NOx (1)	34.1	34.3	46.2	-	114.6	
(2)	46.0	46.0	61.3	-	153.3	38.7
PM (1)	-	-	-	7.71	7.7	
(2)	-	-	-	17.3	17.3	9.6
H_2S (1)	-	-	-	9.45	9.5	
(2)	-	-	-	21.2	21.2	11.7*
VOC (1)	-	-	-	14.02	14.0	
(2)	-	-	-	31.4	31.4	17.4

NOTE: (1) Represents estimated actual emissions and (2) represents proposed emissions.

KOOGLER & ASSOCIATES

The above analysis indicates that the estimated net emissions increase in H_2S resulting from the proposed project is significant (exceeds 10 tpy). Accordingly, the emissions of H_2S are subject to PSD review. As there are no ambient air quality standards for H_2S, the PSD review essentially requires a control technology analysis.

As in the case of SO_2 emissions from the molten sulfur system, there have been no add-on control technologies required or recommended by EPA or FDEP for molten sulfur systems as the emissions of air pollutants are fairly low.

The emission limits for the molten sulfur system reflecting BACT will be in accordance with Rule 62-296.411, FAC, limiting visible emissions to 20% opacity and maintaining proper operation practices.

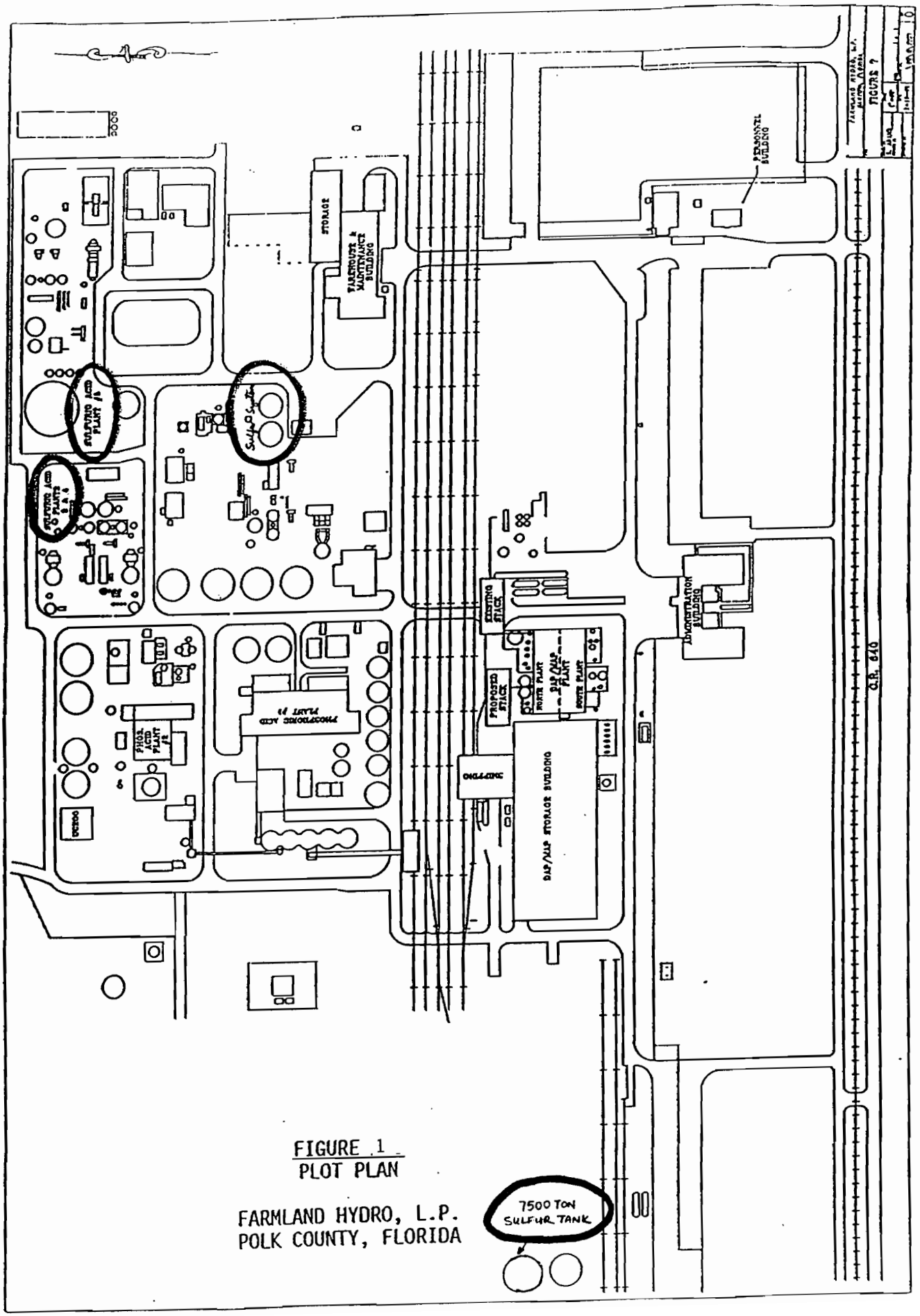
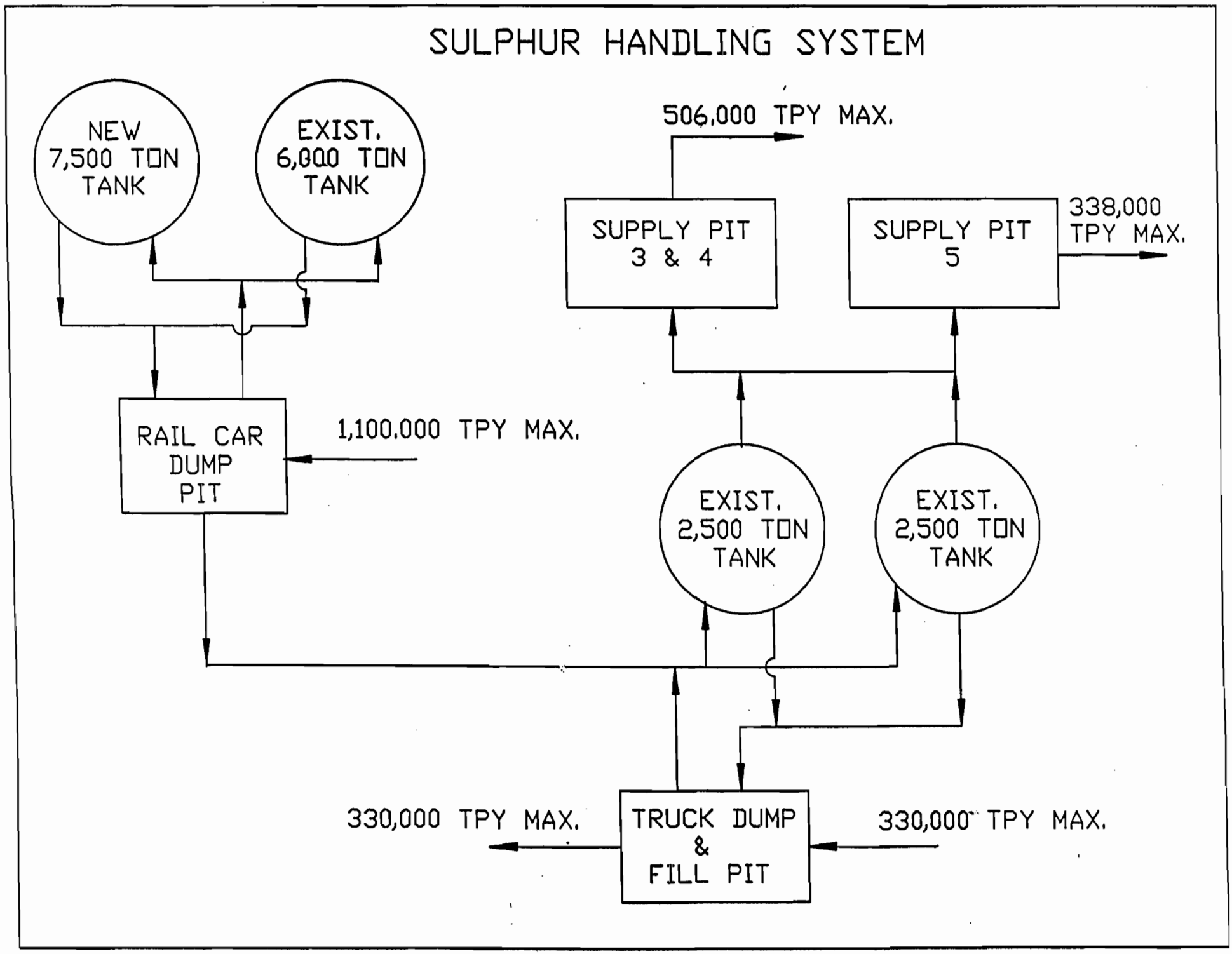


FIGURE 1
PLOT PLAN

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

FIGURE 2


SULPHUR HANDLING SYSTEM
NEW 7,500 TON TANK
EXIST. 6,000 TON TANK
506,000 TPY MAX.
SUPPLY PIT 3 & 4
SUPPLY PIT 5
338,000 TPY MAX.
RAIL CAR DUMP PIT
1,100,000 TPY MAX.
EXIST. 2,500 TON TANK
EXIST. 2,500 TON TANK
330,000 TPY MAX.
TRUCK DUMP & FILL PIT
330,000 TPY MAX.

THIS DISK CONTAINS SO2 PSD ANALYSIS FILES IN ASCII FORMAT.
THE FOLLOWING ARE ISCST2 OUTPUT FILES FOR FARMLAND HYDRO IN POLK COUNTY, FL.

FOR PSD AND NAAQS SO2 MODELING, THE SELF EXTRACTING ARCHIVE FILES:

c1fmonly.exe	83456	Class 1 Farmland only
farm-asi.exe	103688	Area of Significant impact
psd-c1.exe	95184	Class I PSD with inventory
psd2faqs.exe	445295	Class II PSD and FAAQS with inventory
psdc1evt.exe	151897	Events from Class I PSD with inventory
maxis.exe	21345	Class I Maxifile from PSD with inventory
class1ev.wk1	39604	Class I PSD events worksheet

TO UNARCHIVE THIS FILE COPY IT TO A HARD DISK DRIVE AND TYPE THE FILE NAME.

Class 1 Farmland only:
C1FRM87A.OUT Annual modeling period for 1987.
C1FRM87S.OUT 3 & 24 hour modeling periods for 1987.
C1FRM88A.OUT Annual modeling period for 1988.
C1FRM88S.OUT 3 & 24 hour modeling periods for 1988.
C1FRM89A.OUT Annual modeling period for 1989.
C1FRM89S.OUT 3 & 24 hour modeling periods for 1989.
C1FRM90A.OUT Annual modeling period for 1990.
C1FRM90S.OUT 3 & 24 hour modeling periods for 1990.
C1FRM91A.OUT Annual modeling period for 1991.
C1FRM91S.OUT 3 & 24 hour modeling periods for 1991.

Area of Significant impact:
FMASI87A.OUT Annual modeling period for 1987.
FMASI87S.OUT 3 & 24 hour modeling periods for 1987.
FMASI88A.OUT Annual modeling period for 1988.
FMASI88S.OUT 3 & 24 hour modeling periods for 1988.
FMASI89A.OUT Annual modeling period for 1989.
FMASI89S.OUT 3 & 24 hour modeling periods for 1989.
FMASI90A.OUT Annual modeling period for 1990.
FMASI90S.OUT 3 & 24 hour modeling periods for 1990.
FMASI91A.OUT Annual modeling period for 1991.
FMASI91S.OUT 3 & 24 hour modeling periods for 1991.

Class I PSD with inventory:
PSD1-87.OUT 1987 modeling.
PSD1-88.OUT 1988 modeling.
PSD1-89.OUT 1989 modeling.
PSD1-90.OUT 1990 modeling.
PSD1-91.OUT 1991 modeling.

Events from Class I PSD with inventory:
EVNTCI87.OUT 1987 modeling.
EVNTCI88.OUT 1988 modeling.
EVNTCI89.OUT 1989 modeling.
EVNTCI90.OUT 1990 modeling.
EVNTCI91.OUT 1991 modeling.

Class I Maxifile outputs from Class I PSD with inventory:
3-ACI-87.PRN 3 hour output for 1987
24ACI-87.PRN 24 hour output for 1987
3-ACI-88.PRN 3 hour output for 1988
24ACI-88.PRN 24 hour output for 1988
3-ACI-89.PRN 3 hour output for 1989
24ACI-89.PRN 24 hour output for 1989
3-ACI-90.PRN 3 hour output for 1990
24ACI-90.PRN 24 hour output for 1990
3-ACI-91.PRN 3 hour output for 1991

24ACI-91.PRN 24 hour output for 1991

Class II PSD with inventory:
PSD2-87.OUT 1987 modeling.
PSD2-88.OUT 1988 modeling.
PSD2-89.OUT 1989 modeling.
PSD2-90.OUT 1990 modeling.
PSD2-91.OUT 1991 modeling.

FAAQS with inventory:
FAQS-87.OUT 1987 modeling.
FAQS-88.OUT 1988 modeling.
FAQS-89.OUT 1989 modeling.
FAQS-90.OUT 1990 modeling.
FAQS-91.OUT 1991 modeling.

IF THERE ARE ANY QUESTIONS OR IF ADDITIONAL FILES
ARE REQUIRED PLEASE CALL ME.

MARK KOLETZKE
KOOGLER AND ASSOCIATES
(904) 377-5822

faxed to you 3-29-95 VMO

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

MAR 29 1995

IN REPLY REFER TO:

RECEIVED
APR 05 1995
Bureau of
Air Regulation

Mr. Clair H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399

Dear Mr. Fancy:

We have reviewed the Prevention of Significant Deterioration (PSD) application for the proposed increase in sulfuric acid production at the Farmland Hydro, L.P. (Farmland), Green Bay Complex. The facility is located 110 km southeast of Chassahowitzka Wilderness Area (WA), a Class I air quality area, administered by the Fish and Wildlife Service. The proposed modification will result in significant increases in emissions of sulfur dioxide (SO_2) and sulfuric acid mist (H_2SO_4). The following table summarizes these increases.

POLLUTANT	EMISSIONS (TPY)			
	Permitted	Actual	Proposed	Net Increase
SO_2	4118	2175	5128	2953
H_2SO_4 Mist	164	76	192	115

The proposed emissions increases for the increase in sulfuric acid production are based on allowable (permitted) emission rates instead of actual emission rates. As you know, net emission increases must be based on actual, not allowable emissions. We ask that Farmland's proposed increases be revised accordingly.

Best Available Control Technology

We agree that double absorption and fiber mist eliminators represent Best Available Control Technology (BACT) for this facility. However, we do not agree that the proposed corresponding emission levels represent BACT. The proposed emission levels are equivalent to the New Source Performance Standards (NSPS) for sulfuric acid plants, which have not been reviewed by the Environmental Protection Agency (EPA) for 10

years. We believe that in cases where information is available to show that the Best Demonstrated Technology (as defined in the NSPS) can achieve levels beyond the NSPS limits, BACT should be set at the lower levels. This eliminates the trend of stagnating, inflated BACT determinations which are based solely on the NSPS and not on actual demonstrated emission levels. Test information provided in Farmland's application indicates that emission rates lower than the NSPS are achievable. In addition, other sulfuric acid facilities, including the IMC and Agrico facilities in Florida, have consistently demonstrated that levels lower than the NSPS are feasible. BACT for the General Chemical facility was recently set below the NSPS. We understand that past actual emission levels may not be achievable at the higher production rates; therefore, it is appropriate to obtain data over a reasonable amount of time to determine the BACT emission rate. We request that you set BACT for this facility at actual achievable emission rates as demonstrated during compliance tests or over a reasonable amount of operating time.

Air Quality Modeling Analysis

Farmland's air quality impact analysis is complete except for a regional haze visibility analysis. We ask that the applicant submit to us a regional haze analysis as per the guidance found in the EPA document Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 1 Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility (EPA-454/R-93-015, April 1993). This analysis should consider the proposed increases in SO_2, H_2SO_4, and PM-10 emissions. A visual range of 65 km should be used in the analysis. This visual range is derived from data collected from the Interagency Monitoring of Protected Visual Environments fine particle sampler at Chassahowitzka National Wildlife Refuge and represents the 10 percent cleanest days at the refuge. Technical assistance to the applicant for this analysis is available from our Air Quality Branch.

We are concerned that the modeling analysis predicts numerous exceedances of the PSD Class I 3-hour and 24-hour SO_2 increments. We have expressed concern to you in the past regarding the short-term SO_2 increments, but as yet this issue has not been resolved. We agree with you that a more refined modeling analysis is required to determine the status of SO_2 increment consumption at Chassahowitzka WA and urge that this analysis be undertaken as soon as possible.

Air Quality Related Values Analysis

Farmland predicted that SO_2 and H_2SO_4 emissions would not adversely affect vegetation at Chassahowitzka WA, and refer to exposure studies on vascular plant species to support their

conclusion. We would like to note that nonvascular species, such as lichens, are far more sensitive to SO_2 exposure than vascular plants. Certain lichen species are affected by SO_2 concentrations as low as 13 micrograms per cubic meter. We are currently compiling a list of lichen species at Chassahowitzka WA and will provide this information to you and to permit applicants as soon as it is available.

We ask that you require Farmland to address our concerns and allow us sufficient time to review their regional haze analysis. Thank you for giving us the opportunity to comment on this permit application. We appreciate your cooperation in notifying us of proposed projects with the potential to impact the air quality and related resources of our Class I air quality areas. If you have questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver at telephone number 303/969-2617.

Sincerely yours,

Judy Jones

for Noreen K. Clough
Regional Director

cc: G. Reynolds
E. Holladay
G. Kissel, SWDist
G. Harper, EPA
G. Kougher, K+A

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 22, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Charles Jenkins
Environmental Services
Farmland Hydro, L.P.
County Road 640 West
Bartow, Florida 33830

Subject: Permit No. AC53-265755 & PSD-FL-225

Dear Mr. Jenkins:

The Department has reviewed your application for a construction permit to modify sulfuric acid plants 3, 4 and 5. We need more information in order to continue processing this application. Please complete the application by providing the information requested below.

AIR QUALITY REVIEW

1. Building downwash impacts and impacts from the molten sulfur system were not included in the air quality modeling analysis. Please evaluate these impacts and do any additional modeling that is necessary to complete this analysis.

2. In order for a modeling analysis to show attainment of the AAQS, you must add a representative background concentration to the modeled concentrations. You did not include this concentration in your analysis. This background concentration should be representative of the overall air quality entering the region and of any sources which were not explicitly modeled (i.e., natural and unidentified sources). Normally, this concentration is a non zero value and is based on air quality monitoring data collected in the vicinity of a proposed project or source. In order to minimize double counting of modeled source impacts, we have chosen a background concentration value from the SO_2 monitor located in Mulberry. This suggested value is 9 ug/m^3 for all averaging times and is based on the annual average obtained from 1994 data collected at this monitor. You should add this value to the modeled concentrations for all averaging times.

3. The annual area of significant impact modeling should be based on the difference between the proposed emissions and the actual annual hourly emissions. Please redo the annual area of significant impact modeling using the correct inputs. If the area of significant impact becomes larger because of the corrected results, please redo any modeling impacted by the correction.

4. The National Park Service has requested a regional haze visibility analysis. Please submit a regional haze analysis and follow the guidance found in the EPA document Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 1 Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility (EPA-454/R-93-015, April 1993). This analysis should consider the proposed increases in SO_2, H_2SO_4, and PM-10 emissions. A visual range of 65 km should be used in the analysis. This visual range is derived from data collected from the IMPROVE (Interagency Monitoring of Protected Visual Environments) fine particle sampler at Chassahowitzka National Wildlife Refuge and represents the ten percent cleanest days at the refuge. Technical assistance in performing this analysis may be obtained from John Notar of the National Park Service's Air Quality Division in Denver, Colorado. His phone number is 303-969-2071

If you have any questions, please call Cleve Holladay, meteorologist, at 904-488-1344, or write to me at the above address.

Sincerely,

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

AL/ch

cc: Pradeep Raval, Koogler and Associates
John J. Taylor, SWD
also : J. Bunyak
J. Harper
L. Novak
Cleve Holladay
John Reynolds

Best Available Copy

SENDER:
- Complete ite
- Complete it:
- Print your name and address on the reverse of this form so that 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:
Charles Jenkins
Environmental Services
Fairland Hydro, LP
County Rd 640 W
Bartow, Fl 33830

4a. Article Number
Z 751 860 030

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

5. Signature (Addressee)
Linda Thompson

6. Signature (Agent)

7. Date of Delivery
3/24/95

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

PS Form

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

RETURN RECEIPT

Z 751 860 030

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Charles Jenkins	
Street and No. Fairland Hydro	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 3-22-95	

AC 53-265755
PSD-FL-225

PS Form **3800**, March 1993

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

February 22, 1995

Ms. Linda Novak
Polk County Air Quality Program
P. O. Box 39
Bartow, FL 33830

RE: Farmland Hydro L. P.
Nos. 3, 4 and 5 Sulfuric Acid Plants
Polk County, PSD-FL-225

Dear Ms. Novak:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact John Reynolds or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams

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

CHF/pa

Enclosures

cc: John Reynolds

Department of Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

February 22, 1995

Mr. John Bunyak, Chief
Policy, Planning and Permit Review Branch
National Park Service-Air Quality Division
P. O. Box 25287
Denver, CO 80225

RE: Farmland Hydro L. P.
Nos. 3, 4 and 5 Sulfuric Acid Plants
Polk County, PSD-FL-225

Dear Mr. Bunyak:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact John Reynolds or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia D. Adams

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

CHF/pa

Enclosures

cc: John Reynolds

Department of
Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

February 22, 1995

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

RE: Farmland Hydro L. P.
Nos. 3, 4 and 5 Sulfuric Acid Plants
Polk County, PSD-FL-225

Dear Ms. Harper:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact John Reynolds or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia H. Adams for

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

CHF/pa

Enclosures

cc: John Reynolds

0101190

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-05

February 14, 1995

Mr. Clair Fancy
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Application for Air Construction
(Modification) Permit
Farmland Hydro, L.P.
Sulfuric Acid Plant Nos. 3, 4 and 5
Bartow, Florida

Dear Mr. Fancy:

Enclosed are seven signed copies of the permit application and a check for $7,500 (permit application fee) for the subject plants. The copies for FDEP, EPA and the National Park Service include six diskettes which contain the modeling information for PSD Class 1, PSD Class 2 and FAAQS.

If you have any questions concerning this application, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep Raval CWS

Pradeep A. Raval

PAR:wa
Enc.

c: Mr. Charles Jenkins, Farmland

Farmland Hydro, L.P.
P.O. Box 7305
Kansas City, Missouri 64116

CHECK NO. 70006861
0101190

80-182
1019

16 25 F0353 2-16-95
CO. BR. VEND. NO. CHECK DATE

PAY EXACTLY $*******7,500 DOLLARS AND 00 CENTS

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$*******7,500.00
VOID AFTER 180 DAYS

Boatmen's Bank of Marshall
Marshall, Missouri 65340

Farmland Hydro, L.P.

PAY TO THE ORDER OF

Florida Department of
Environmental Protection
Mr. Clair Fancy
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

[redacted]

16 25 F0353 Fla. Dept. of Environmental Prote
CO. BR. VENDOR NO. VENDOR NAME

REMITTANCE ADVICE

CHECK NUMBER 70006861

DESCRIPTION	P.O.	VOUCHER	INVOICE NO.	INV. DATE	INVOICE AMOUNT	DISCOUNT TAKEN	AMOUNT PAID
			239405	021395	7,500.00		7,500.00
			TOTALS		7,500.00		7,500.00

Farmland Hydro, L.P.
P.O. Box 7305
Kansas City, Missouri 64116

FII-6310 (10/91)

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ▪ FAX 377-7158

KA 123-94-05

February 14, 1995

RECEIVED
FEB 21 1995
Bureau of
Air Regulation

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DER - MAIL ROOM
1995 FEB 21 AM 9:45

Mr. Clair Fancy
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Application for Air Construction
(Modification) Permit
Farmland Hydro, L.P.
Sulfuric Acid Plant Nos. 3, 4 and 5
Bartow, Florida

Dear Mr. Fancy:

Enclosed are seven signed copies of the permit application and a check for $7,500 (permit application fee) for the subject plants. The copies for FDEP, EPA and the National Park Service include six diskettes which contain the modeling information for PSD Class 1, PSD Class 2 and FAAQS.

If you have any questions concerning this application, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep Raval

Pradeep A. Raval

PAR:wa
Enc.

c: Mr. Charles Jenkins, Farmland

16 25 F0353 Fla. Dept. of Environmental Protection REMITTANCE ADVICE

CO. BR. VENDOR NO. VENDOR NAME

CHECK NUMBER 70006861

DESCRIPTION	P.O.	VOUCHER	INVOICE NO.	INV. DATE	INVOICE AMOUNT	DISCOUNT TAKEN	AMOUNT PAID
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Farmland Hydro, L.P.
P.O. Box 7305
Kansas City, Missouri 64116

FII-6310 (10/91)

Farmland Hydro, L.P.
P.O. Box 7305
Kansas City, Missouri 64116

CHECK NO. 70006861

80-182
1019

16 25 F0353 2-16-95
CO. BR. VEND. NO. CHECK DATE

PAY EXACTLY $*******7,500 DOLLARS AND 00 CENTS

CHECK AMOUNT
$*******7,500.00
VOID AFTER 180 DAYS

Boatmen's Bank of Marshall
Marshall, Missouri 65340

Farmland Hydro, L.P.

PAY TO THE ORDER OF

Florida Department of
Environmental Protection
Mr. Clair Fancy
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

[redacted]

AIRS ID 1050053 -004-AC

Department of Environmental Protection

RECEIVED
FEB 21 1995
Bureau of Air Regulation

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

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

I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application, the purpose for which this application is being submitted, and the nature of any construction or modification activities proposed as a part of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

FARMLAND HYDRO, L.P.
County Road 640 West
Bartow, Polk County, Florida

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	2-21-95
2. Permit Number:	AC53-265755
3. PSD Number (if applicable):	PSD-FL-225
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   C.M. Farris, Vice President, Operations

2. Owner/Authorized Representative or Responsible Official Mailing Address:

   Organization/Firm: **Farmland Hydro, L.P.**
   Street Address: **County Road 640 West**
   City: **Bartow** State: **Florida** Zip Code: **33830**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(813) 533 - 1141** Fax: **(813) 533 - 8793**

4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, F.A.C., 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. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application 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. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I 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. 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.*

C M Farris — Signature

Feb. 16, 1995 — Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility (or Title V source). An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID	Description of Emissions Unit
SAP 3	Sulfuric Acid Plant No. 3
SAP 4	Sulfuric Acid Plant No. 4
SAP 5	Sulfuric Acid Plant No. 5
SULFUR	Molten Sulfur System

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., 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: _____

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be revised: _____

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

[ ] Air operation permit revision for a Title V source 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 to be revised: _____

Reason for revision: _____

_____

Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

_____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units

This Application for Air Permit is submitted to obtain:

[X] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: **See Attached Report**

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

Current operation permit number(s): _____

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

Application Processing Fee

Check one:

[**X**] Attached - Amount: $7500 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

For the increase in sulfuric acid production rates of plant Nos. 3, 4 and 5 from a total of 5640 to 7000 tons per day of 100% sulfuric acid; and, a corresponding increase in the molten sulfur handling rates.

2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY):
01-Jul-1995

3. Projected Date of Completion of Construction (DD-MON-YYYY):
01-Jul-1996

Professional Engineer Certification

1. Professional Engineer Name: **John B. Koogler, Ph.D., P.E.**
   Registration Number: **12925**
2. Professional Engineer Mailing Address:

   Organization/Firm: **Koogler & Associates**
   Street Address: **4014 NW 13th Street**
   City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Professional Engineer Telephone Numbers:
   Telephone: **(904) 377 - 5822** Fax: **(904) 377 - 7158**
4. Professional Engineer Statement:

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

   (1) To the best of my knowledge, there is reasonable assurance (a) 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; or (b) for any application for a Title V source air operation permit, 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;

   (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; and

   (3) For any application for an air construction permit for one or more proposed new or modified emissions units, 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.

   Signature _____ Date 2/10/95

   (seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact: **Pradeep Raval**
2. Application Contact Mailing Address: Organization/Firm: **Koogler & Associates** Street Address: **4014 NW 13th Street** City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Application Contact Telephone Numbers: Telephone: **(904) 377 - 5822** Fax: **(904) 377 - 7158**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Name, Location, and Type

1. Facility Owner or Operator: **Farmland Hydro, L.P.**			
2. Facility Name: **Green Bay Complex**			
3. Facility Identification Number: [X] Unknown			
4. Facility Location Information: Facility Street Address: **County Road 640 West** City: **Bartow** County: **Polk** Zip Code: **33830**			
5. Facility UTM Coordinates: Zone: **17** East (km): **410.3** North (km): **3079.7**			
6. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
7. Governmental Facility Code: **0**	8. Facility Status Code: **A**	9. Relocatable Facility? [ ] Yes [X] No	10. Facility Major Group SIC Code: **28**
11. Facility Comment:			

Facility Contact

1. Name and Title of Facility Contact: **Charles Jenkins**			
2. Facility Contact Mailing Address: Organization/Firm: **Farmland Hydro, L.P.** Street Address: **County Road 640 West** City: **Bartow** State: **Florida** Zip Code: **33830**			
3. Facility Contact Telephone Numbers: Telephone: **(813) 533 - 1141** Fax: **(813) 533 - 8793**			

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [X] No [ ] Unknown
2. Title V Source? [X] Yes [ ] No
3. Synthetic Non-Title V Source? [ ] Yes [X] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? [X] Yes [ ] No
5. Synthetic Minor Source of Pollutants Other than HAPs? [ ] Yes [X] No
6. Major Source of Hazardous Air Pollutants (HAPs)? [ ] Yes [ ] No [X] Possible
7. Synthetic Minor Source of HAPs? [ ] Yes [X] No
8. One or More Emissions Units Subject to NSPS? [X] Yes [ ] No
9. One or More Emission Units Subject to NESHAP? [ ] Yes [X] No
10. Title V Source by EPA Designation? [ ] Yes [X] No
11. Facility Regulatory Classifications Comment:

B. FACILITY REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of federal, state, and local regulations applicable to the facility as a whole. (Regulations applicable to individual emissions units within the facility are addressed in Subsection III-B of the form.)

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

The proposed project is subject to the following rules in Chapter 62 of the Florida Administrative Code.

210.300(1) - Construction permit application.
212.300 - General preconstruction review requirement.
212.400 - PSD review of sulfur dioxide and acid mist.
212.410 - BACT review for sulfur dioxide and acid mist.

See also discussion on rule applicability in attached report.

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40 CFR 60 Subpart H	
FDEP Core List	

C. FACILITY POLLUTANT INFORMATION

This subsection of the Application for Air Permit form allows for the reporting of potential and estimated emissions of selected pollutants on a facility-wide basis. It must be completed for each pollutant for which the applicant proposes to establish a facility-wide emissions cap and for each pollutant for which emissions are not reported at the emissions-unit level.

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted:	**N/A**		
2. Estimated Emissions:			(tons/year)
3. Requested Emissions Cap:		(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:			
5. Facility Pollutant Comment:			

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted: :	**N/A**		
2. Estimated Emissions:			(tons/year)
3. Requested Emissions Cap:		(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:			
5. Facility Pollutant Comment:			

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted: :	**N/A**	
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

Facility Pollutant Information: Pollutant _____ of _____

1. Pollutant Emitted: :	**N/A**	
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

D. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-I of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: [**X**] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [**X**] Attached, Document ID: **Fig. 2-3** [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [**X**] Attached, Document ID: **Fig. 3-1** [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [**X**] Attached, Document ID: **Report** [ ] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only **N/A**

7. List of Insignificant Activities: [ ] Attached, Document ID:_____ [ ] Not Applicable
8. List of Equipment/Activities Regulated under Title VI: [ ] Attached, Document ID:_____ [ ] Equipment/Activities Onsite but Not Required to be Individually Listed [ ] Not Applicable

9. Alternative Methods of Operation: [ ] Attached, Document ID:_____ [ ] Not Applicable
10. Alternative Modes of Operation (Emissions Trading): [ ] Attached, Document ID:_____ [ ] Not Applicable
11. Enhanced Monitoring Plan: [ ] Attached, Document ID:_____ [ ] Not Applicable
12. Risk Management Plan Verification: [ ] Plan Submitted to Implementing Agency - Verification Attached, Document ID:_____ [ ] Plan to be Submitted to Implementing Agency by Required Date [ ] Not Applicable
13. Compliance Report and Plan [ ] Attached, Document ID:_____ [ ] Not Applicable
14. Compliance Statement (Hard-copy Required) [ ] Attached, Document ID:_____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

[**X**] 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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

[ ] 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.

Emissions Unit Information Section 1 of 4

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section: **Sulfuric Acid Plant**		
2. ARMS Identification Number: [ ] No Corresponding ID [**X**] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **28**
6. Initial Startup Date (DD-MON-YYYY): **N/A**		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **N/A**		
8. Package Unit: Manufacturer: **N/A** Model Number:		
9. Generator Nameplate Rating: **N/A** MW		
10. Incinerator Information: **N/A** Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature : °F		
11. Emissions Unit Comment:		

Emissions Unit Control Equipment

A.

1. Description:
Double Contact Process
2. Control Device or Method Code:
044

B.

1. Description:
Mist Eliminator
2. Control Device or Method Code:
014

C.

1. Description:
2. Control Device or Method Code:

Emissions Unit Information Section 1 of 4

Emissions Unit Operating Capacity

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: **2100 Tons Produced or Manufactured per Day (TPD).**	
5. Operating Capacity Comment:	

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
24	hours/day	**7**	days/week
52	weeks/year	**8760**	hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

See Page 11.

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Page 12.	

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sulfuric Acid Plant No. 3**			
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4			
3. Descriptions of Emissions Points Comprising this Emissions Unit: **N/A**			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**			
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W			
6. Stack Height:	**100**	feet	
7. Exit Diameter:	**7.5**	feet	
8. Exit Temperature:	**180**	°F	
9. Actual Volumetric Flow Rate:	**105,000**	acfm	

10. Percent Water Vapor :	**N/A**	%
11. Maximum Dry Standard Flow Rate:	**N/A**	dscfm
12. Nonstack Emission Point Height:	**N/A**	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Sulfuric Acid Production**	
2. Source Classification Code (SCC): **3-01-023-04**	
3. SCC Units: **Tons Produced or Manufactured**	
4. Maximum Hourly Rate: **87.5**	5. Maximum Annual Rate: **766,500**
6. Estimated Annual Activity Factor: **N/A**	
7. Maximum Percent Sulfur: **N/A**	8. Maximum Percent Ash: **N/A**
9. Million Btu per SCC Unit: **N/A**	
10. Segment Comment:	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **N/A**	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 3

1. Pollutant Emitted: **SO2**				
2. Total Percent Efficiency of Control: **99.7**				%
3. Primary Control Device Code: **044**				
4. Secondary Control Device Code: **N/A**				
5. Potential Emissions:	**350**	lb/hour	**1533**	tons/year
6. Synthetically Limited? [ ] Yes [**X**] No				
7. Range of Estimated Fugitive/Other Emissions: [**X**] 1 [ ] 2 [ ] 3			_____ to _____	tons/year
8. Emission Factor: **4 lb/ton acid** Reference: **AP-42**				
9. Emissions Method Code: [ ] 1 [ ] 2 [**X**] 3 [ ] 4 [ ] 5				
10. Calculation of Emissions: **See Attached Report.**				
11. Pollutant Potential/Estimated Emissions Comment:				

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**Rule**
2. Future Effective Date of Allowable Emissions:	**N/A**
3. Requested Allowable Emissions and Units:	**4 lb/ton product**
4. Equivalent Allowable Emissions:	**350** lb/hour **1533** tons/year
5. Method of Compliance:	**EPA Method 8**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	**40 CFR 60 Subpart H**

B.

1. Basis for Allowable Emissions Code:	**N/A**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hr tons/year
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 2 of 3

1. Pollutant Emitted: **SAM**				
2. Total Percent Efficiency of Control:			**99**	%
3. Primary Control Device Code: **014**				
4. Secondary Control Device Code: **N/A**				
5. Potential Emissions:	**13.1**	lb/hour	**57.5**	tons/year
6. Synthetically Limited? [ ] Yes [**X**] No				
7. Range of Estimated Fugitive/Other Emissions: [**X**] 1 [ ] 2 [ ] 3			_____ to _____	tons/year
8. Emission Factor: **0.15 lb/ton acid** Reference: **CFR**				
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**X**] 5				
10. Calculation of Emissions: **See Attached Report.**				
11. Pollutant Potential/Estimated Emissions Comment:				

Emissions Unit Information Section 1 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**Rule**
2. Future Effective Date of Allowable Emissions:	**N/A**
3. Requested Allowable Emissions and Units:	**0.15 lb/ton product**
4. Equivalent Allowable Emissions:	**13.1** lb/hour **57.5** tons/year
5. Method of Compliance:	**EPA Method 8**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	**40 CFR 60 Subpart H**

B.

1. Basis for Allowable Emissions Code:	**N/A**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hr tons/year
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**VE**
2. Basis for Allowable Opacity:	[**X**] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Maximum Period of Excess Opacity Allowed:	Exceptional Conditions: % min/hour
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **40 CFR 60 Subpart H**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**N/A**
2. Basis for Allowable Opacity:	[ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**N/A**
2. Basis for Allowable Opacity:	[ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	**SO2**
2. CMS Requirement:	[**X**] Rule [ ] Other
3. Monitor Information: Manufacturer: **Dupont** Model Number: **400**	Serial Number: **3996**
4. Installation Date (DD-MON-YYYY):	**-Mar-1975**
5. Performance Specification Test Date (DD-MON-YYYY):	**05-Nov-1982**
6. Continuous Monitor Comment: **40 CFR 60 Subpart H**	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: **N/A**
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: **N/A**
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[**X**] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**			
PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions: **See Report**		
PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram [X] Attached, Document ID: **Fig. 3-1** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested **Previously Submitted**
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [X] Waiver Requested **Previously Submitted**
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [X] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [X] Not Applicable
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [X] Not Applicable
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [X] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only N/A

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain 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:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

[**X**] 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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

[ ] 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.

Emissions Unit Information Section 3 of 4

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section: **Sulfuric Acid Plant**		
2. ARMS Identification Number: [ ] No Corresponding ID [**X**] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **28**
6. Initial Startup Date (DD-MON-YYYY): **N/A**		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **N/A**		
8. Package Unit: Manufacturer: **N/A** Model Number:		
9. Generator Nameplate Rating: **N/A** MW		
10. Incinerator Information: **N/A** Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature : °F		
11. Emissions Unit Comment:		

Emissions Unit Control Equipment

A.

1. Description:
Double Contact Process
2. Control Device or Method Code: **044**

B.

1. Description:
Mist Eliminator
2. Control Device or Method Code: **014**

C.

1. Description:
2. Control Device or Method Code:

Emissions Unit Information Section 3 of 4

Emissions Unit Operating Capacity

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: **2800 Tons Produced or Manufactured per Day (TPD).**			
5. Operating Capacity Comment:			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
24	hours/day	**7**	days/week
52	weeks/year	**8760**	hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

See Page 11.

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Page 12.	

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sulfuric Acid Plant No. 5**			
2. Emission Point Type Code: [X] 1 [ ] 2 [ ] 3 [ ] 4			
3. Descriptions of Emissions Points Comprising this Emissions Unit: **N/A**			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**			
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [X] V [ ] W			
6. Stack Height:	**150**	feet	
7. Exit Diameter:	**8**	feet	
8. Exit Temperature:	**180**	°F	
9. Actual Volumetric Flow Rate:	**133,000**	acfm	

10. Percent Water Vapor :	**N/A**	%
11. Maximum Dry Standard Flow Rate:	**N/A**	dscfm
12. Nonstack Emission Point Height:	**N/A**	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Sulfuric Acid Production**	
2. Source Classification Code (SCC): **3-01-023-04**	
3. SCC Units: **Tons Produced or Manufactured**	
4. Maximum Hourly Rate: **116.7**	5. Maximum Annual Rate: **1,022,000**
6. Estimated Annual Activity Factor: **N/A**	
7. Maximum Percent Sulfur: **N/A**	8. Maximum Percent Ash: **N/A**
9. Million Btu per SCC Unit: **N/A**	
10. Segment Comment:	

Emissions Unit Information Section 3 of 4

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **N/A**	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 3

1. Pollutant Emitted: **SO2**				
2. Total Percent Efficiency of Control: **99.7**				%
3. Primary Control Device Code: **044**				
4. Secondary Control Device Code: **N/A**				
5. Potential Emissions:	**466.7**	lb/hour	**2044**	tons/year
6. Synthetically Limited? [ ] Yes [X] No				
7. Range of Estimated Fugitive/Other Emissions: [X] 1 [ ] 2 [ ] 3			_____ to _____	tons/year
8. Emission Factor: **4 lb/ton acid** Reference: **AP-42**				
9. Emissions Method Code: [ ] 1 [ ] 2 [X] 3 [ ] 4 [ ] 5				
10. Calculation of Emissions: **See Attached Report.**				
11. Pollutant Potential/Estimated Emissions Comment:				

Emissions Unit Information Section 3 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**Rule**
2. Future Effective Date of Allowable Emissions:	**N/A**
3. Requested Allowable Emissions and Units:	**4 lb/ton product**
4. Equivalent Allowable Emissions:	**466.7** lb/hour **2044** tons/year
5. Method of Compliance:	**EPA Method 8**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	**40 CFR 60 Subpart H**

B.

1. Basis for Allowable Emissions Code:	**N/A**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hr tons/year
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 2 of 3

1. Pollutant Emitted: **SAM**				
2. Total Percent Efficiency of Control:			**99**	%
3. Primary Control Device Code: **014**				
4. Secondary Control Device Code: **N/A**				
5. Potential Emissions:	**17.5**	lb/hour	**76.7**	tons/year
6. Synthetically Limited? [ ] Yes [X] No				
7. Range of Estimated Fugitive/Other Emissions: [X] 1 [ ] 2 [ ] 3			_____ to _____	tons/year
8. Emission Factor: **0.15 lb/ton acid** Reference: **CFR**				
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5				
10. Calculation of Emissions: **See Attached Report.**				
11. Pollutant Potential/Estimated Emissions Comment:				

Emissions Unit Information Section 3 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**Rule**
2. Future Effective Date of Allowable Emissions:	**N/A**
3. Requested Allowable Emissions and Units:	**0.15 lb/ton product**
4. Equivalent Allowable Emissions:	**17.5** lb/hour **76.7** tons/year
5. Method of Compliance:	**EPA Method 8**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	**40 CFR 60 Subpart H**

B.

1. Basis for Allowable Emissions Code:	**N/A**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hr tons/year
5. Method of Compliance:	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 3 of 3

1. Pollutant Emitted:	**NOx**			
2. Total Percent Efficiency of Control:	**N/A**	%		
3. Primary Control Device Code:	**N/A**			
4. Secondary Control Device Code:	**N/A**			
5. Potential Emissions:	**14.0**	lb/hour	**61.3**	tons/year
6. Synthetically Limited? [ ] Yes [X] No				
7. Range of Estimated Fugitive/Other Emissions: [X] 1 [ ] 2 [ ] 3	_____ to _____ tons/year			
8. Emission Factor: **0.12 lb/ton acid** Reference: **DEP Files**				
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5				
10. Calculation of Emissions: **See Attached Report.**				
11. Pollutant Potential/Estimated Emissions Comment:				

Emissions Unit Information Section 3 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**VE**
2. Basis for Allowable Opacity:	[**X**] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Maximum Period of Excess Opacity Allowed:	Exceptional Conditions: % min/hour
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **40 CFR 60 Subpart H**	

Emissions Unit Information Section 3 of 4

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **N/A**
2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: **N/A**
2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	**SO2**
2. CMS Requirement:	[**X**] Rule [ ] Other
3. Monitor Information: Manufacturer: **Dupont** Model Number: **460**	Serial Number: **7345**
4. Installation Date (DD-MON-YYYY):	**-Dec-1990**
5. Performance Specification Test Date (DD-MON-YYYY):	**18-Jun-1991**
6. Continuous Monitor Comment: **40 CFR 60 Subpart H**	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: **N/A**
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code: **N/A**
2. CMS Requirement: [ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [**X**] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[**X**] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**			
PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown
4. Baseline Emissions: **See Report**			
PM		lb/hour	tons/year
SO2		lb/hour	tons/year
NO2			tons/year
5. PSD Comment:			

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **Fig. 3-1** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **Previously Submitted**
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [**X**] Not Applicable
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only **N/A**

10. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Enhanced Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Acid Rain 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:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I 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

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

[ ] 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).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated 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.

[ ] 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.

Emissions Unit Information Section 4 of 4

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section: **Molten Sulfur System**		
2. ARMS Identification Number: [ ] No Corresponding ID [**X**] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [**X**] No	5. Emissions Unit Major Group SIC Code: **28**
6. Initial Startup Date (DD-MON-YYYY): **N/A**		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY): **N/A**		
8. Package Unit: Manufacturer: **N/A** Model Number:		
9. Generator Nameplate Rating: **N/A** MW		
10. Incinerator Information: **N/A** Dwell Temperature: °F Dwell Time: seconds Incinerator Afterburner Temperature : °F		
11. Emissions Unit Comment:		

Emissions Unit Control Equipment

A.

1. Description: **N/A**
2. Control Device or Method Code:

B.

1. Description:
2. Control Device or Method Code:

C.

1. Description:
2. Control Device or Method Code:

Emissions Unit Information Section 4 of 4

Emissions Unit Operating Capacity

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: **2525 tons per day**			
4. Maximum Production Rate: **N/A**			
5. Operating Capacity Comment:			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule:			
24	hours/day	**7**	days/week
52	weeks/year	**8760**	hours/year

B. EMISSIONS UNIT REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

See Page 11

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Page 12	

C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Molten Sulfur System**		
2. Emission Point Type Code: [ ] 1 [ ] 2 [X] 3 [ ] 4		
3. Descriptions of Emissions Points Comprising this Emissions Unit: **Vents associated with :** **a. Rail Pit** **b. Truck Pit** **c. 6000 ton Tank** **d. 2500 ton Tank** **e. 3 & 4 Supply Pits** **f. 5 Supply Pit**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: [ ] D [X] F [ ] H [ ] P [ ] R [ ] V [ ] W		
6. Stack Height:	**N/A**	feet
7. Exit Diameter:	**N/A**	feet
8. Exit Temperature:	**200**	°F
9. Actual Volumetric Flow Rate:	**N/A**	acfm

10. Percent Water Vapor :	**N/A**	%
11. Maximum Dry Standard Flow Rate:	**N/A**	dscfm
12. Nonstack Emission Point Height:	**10**	feet
13. Emission Point UTM Coordinates: Zone: East (km):	**N/A** North (km):	
14. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **Molten Sulfur Storage and Handling**	
2. Source Classification Code (SCC): **3-01-070-02**	
3. SCC Units: **Tons Product Transferred**	
4. Maximum Hourly Rate: **580**	5. Maximum Annual Rate: **840,000**
6. Estimated Annual Activity Factor: **N/A**	
7. Maximum Percent Sulfur: **N/A**	8. Maximum Percent Ash: **N/A**
9. Million Btu per SCC Unit: **N/A**	
10. Segment Comment:	

Emissions Unit Information Section 4 of 4

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): **N/A**	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 1 of 5

1. Pollutant Emitted:	**PM**		
2. Total Percent Efficiency of Control:	**N/A**	%	
3. Primary Control Device Code:	**N/A**		
4. Secondary Control Device Code:	**N/A**		
5. Potential Emissions:	**N/A**	lb/hour	tons/year
6. Synthetically Limited? [ ] Yes [X] No			
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [X] 2 [ ] 3	_____ to _____ tons/year		
8. Emission Factor: Reference:	**See Attached Report**		
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5			
10. Calculation of Emissions:	**See Attached Report**		
11. Pollutant Potential/Estimated Emissions Comment:			

Emissions Unit Information Section 4 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 2 of 5

1. Pollutant Emitted: **PM 10**
2. Total Percent Efficiency of Control: **N/A** %
3. Primary Control Device Code: **N/A**
4. Secondary Control Device Code: **N/A**
5. Potential Emissions: **N/A** lb/hour tons/year
6. Synthetically Limited? [ ] Yes [X] No
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [X] 2 [ ] 3 _____ to _____ tons/year
8. Emission Factor: **See Attached Report** Reference:
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5
10. Calculation of Emissions: **See Attached Report**
11. Pollutant Potential/Estimated Emissions Comment:

Emissions Unit Information Section 4 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 3 of 5

1. Pollutant Emitted:	**SO2**
2. Total Percent Efficiency of Control:	**N/A** %
3. Primary Control Device Code:	**N/A**
4. Secondary Control Device Code:	**N/A**
5. Potential Emissions: **N/A** lb/hour	tons/year
6. Synthetically Limited? [ ] Yes [X] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [X] 2 [ ] 3	_____ to _____ tons/year
8. Emission Factor: Reference:	**See Attached Report**
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5	
10. Calculation of Emissions:	**See Attached Report**
11. Pollutant Potential/Estimated Emissions Comment:	

Emissions Unit Information Section 4 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 4 of 5

1. Pollutant Emitted:	**H_2S**
2. Total Percent Efficiency of Control:	**N/A** %
3. Primary Control Device Code:	**N/A**
4. Secondary Control Device Code:	**N/A**
5. Potential Emissions: **N/A** lb/hour	tons/year
6. Synthetically Limited? [ ] Yes [**X**] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [**X**] 2 [ ] 3	_____ to _____ tons/year
8. Emission Factor: Reference:	**See Attached Report**
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**X**] 5	
10. Calculation of Emissions:	**See Attached Report**
11. Pollutant Potential/Estimated Emissions Comment:	

Emissions Unit Information Section 4 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 5 of 5

1. Pollutant Emitted:	**VOC**
2. Total Percent Efficiency of Control:	**N/A** %
3. Primary Control Device Code:	**N/A**
4. Secondary Control Device Code:	**N/A**
5. Potential Emissions: **N/A** lb/hour	tons/year
6. Synthetically Limited? [ ] Yes [X] No	
7. Range of Estimated Fugitive/Other Emissions: [ ] 1 [X] 2 [ ] 3	_____ to _____ tons/year
8. Emission Factor: Reference:	**See Attached Report**
9. Emissions Method Code: [ ] 1 [ ] 2 [ ] 3 [ ] 4 [X] 5	
10. Calculation of Emissions:	**See Attached Report**
11. Pollutant Potential/Estimated Emissions Comment:	

Emissions Unit Information Section 4 of 4

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

B.

1. Basis for Allowable Emissions Code:	**N/A**	
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**VE**
2. Basis for Allowable Opacity:	[**X**] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Maximum Period of Excess Opacity Allowed:	Exceptional Conditions: % min/hour
4. Method of Compliance:	**EPA Method 9**
5. Visible Emissions Comment:	**62-296.411, FAC**

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**N/A**
2. Basis for Allowable Opacity:	[ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	**N/A**
2. Basis for Allowable Opacity:	[ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	**N/A**
2. CMS Requirement:	[ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	**N/A**
2. CMS Requirement:	[ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	**N/A**
2. CMS Requirement:	[ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [X] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[**X**] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code: **See Report**			
PM	[ ] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions: **See Report**		
PM	lb/hour	tons/year
SO2	lb/hour	tons/year
NO2		tons/year

5. PSD Comment:

I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

Supplemental Requirements for All Applications

1. Process Flow Diagram [**X**] Attached, Document ID: **Fig. 3-2** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [**X**] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [**X**] Not Applicable
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID: **Report** [ ] Not Applicable
9. Other Information Required by Rule or Statute [**X**] Attached, Document ID: **Report** [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation [ ] Attached, Document ID:_____ [ ] Not Applicable
11. Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID:_____ [ ] Not Applicable
12. Enhanced Monitoring Plan [ ] Attached, Document ID:_____ [ ] Not Applicable
13. Identification of Additional Applicable Requirements [ ] Attached, Document ID:_____ [ ] Not Applicable
14. Acid Rain 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:_____ [ ] Not Applicable

A REPORT IN SUPPORT OF PSD PERMIT APPLICATION

PREPARED FOR:

FARMLAND HYDRO, L.P.
GREEN BAY COMPLEX
POLK COUNTY, FLORIDA

FEBRUARY 1995

PREPARED BY:

KOOGLER & ASSOCIATES
4014 N.W. 13TH STREET
GAINESVILLE, FLORIDA 32609
(904) 377-5822

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1.0 SYNOPSIS OF APPLICATION

1.1 APPLICANT

Farmland Hydro, L.P.
Green Bay Complex
P.O. Box 960
Bartow, FL 33830

1.2 FACILITY LOCATION

Farmland Hydro, L.P. (Farmland), Green Bay Complex, consists of a phosphate chemical fertilizer manufacturing facility approximately six miles southwest of Bartow, Florida, on State Road 640 in Polk County. The UTM coordinates of Farmland's sulfuric acid manufacturing complex are Zone 17, 410.33 km east and 3079.66 km north.

1.3 PROJECT DESCRIPTION

Farmland proposes to increase the permitted sulfuric acid production rate of the three existing double absorption sulfuric acid plants from a total of 5640 to 7000 tons per day (TPD) of 100% H_2SO_4, or an increase of about 25 percent. Correspondingly, a 25 percent increase is also requested for the molten sulfur handling rates; from a maximum rate of 2020 to 2525 TPD, or from a maximum rate of 670,000 TPY to 840,000 TPY.

The proposed project will result in a significant net increase (in accordance with Table 212.400-2 of Chapter 17-212, Florida Administrative Code, FAC) in the emission rates of sulfur dioxide and sulfuric acid mist; and, a less than significant increase in the emission rate of nitrogen oxides.

Farmland is submitting this report in support of the application to the Florida Department of Environmental Protection (FDEP) for an increase in the molten sulfur handling rate, and an increase in sulfuric acid production rate at the Green Bay facility. The report includes a description of the existing facility and the proposed project, a review of Best Available Control Technology, an ambient air quality analysis and an evaluation of the impact of the proposed project on soils, vegetation, visibility, and the Class I area.

2.0 FACILITY DESCRIPTION

The Farmland fertilizer manufacturing facility is located near Bartow in Polk County, Florida. The site location and area location maps are presented in Figures 2-1 and 2-2, respectively.

2.1 EXISTING FACILITY

The existing fertilizer complex processes wet phosphate rock into several different fertilizer products. This is accomplished by reacting the phosphate rock with sulfuric acid to produce phosphoric acid and then converting the phosphoric acid to fertilizer products. The chemical complex includes sulfuric acid plants, phosphoric acid plants, super phosphoric acid plant, monoammonium phosphate (MAP) and diammonium phosphate (DAP) plants, and storage, handling, grinding and shipping facilities for phosphate rock, ammonia, sulfur, and fertilizer products. Figure 2-3, Plot Plan, shows the location of the existing plants.

The facility currently purchases additional sulfuric acid to meet the fertilizer production requirements. The requested increase in sulfuric acid manufacture at Farmland will reduce the amount of acid that would have to purchased.

2.1.1 Sulfuric Acid Plant

All three existing sulfuric acid plants utilize the double absorption process. Molten sulfur is fired into a furnace producing sulfur dioxide.

Multiple beds of catalyst convert the sulfur dioxide to sulfur trioxide. Dual absorption towers use sulfuric acid to absorb the sulfur trioxide forming concentrated acid (product). A significant amount of process waste heat is recovered by heat exchangers. The emissions of sulfur dioxide are controlled by the dual absorption towers. The emissions of acid mist are controlled by mist eliminators. There are also some nitrogen oxides emitted from the sulfur combustion process.

The existing Nos. 3 and 4 sulfuric acid plants are each permitted to produce 1620 TPD of 100 percent H_2SO_4. The No. 5 sulfuric acid plant is permitted to produce 2400 TPD of 100 percent H_2SO_4. The plants are subject to federal New Source Performance Standards as set forth in 40 CFR 60, Subpart H. The applicable emission limiting standards for the plants are: 4 pounds per ton of 100 percent acid, for sulfur dioxide; 0.15 pound per ton of 100 percent acid, for acid mist; and 10 percent opacity, for visible emissions. The state of Florida has identical emission limiting standards for new sulfuric acid plants as set forth in Rule 62-296.402, FAC.

The following are the current FDEP air permits for the sulfuric acid plants:

Sulfuric Acid Plant No. 3 - AO 53-217563, expires 7-2-95.

Sulfuric Acid Plant No. 4 - AO 53-217564, expires 7-2-95.

Sulfuric Acid Plant No. 5 - AO 53-200485, expires 7-2-95.

It is expected that the above permit expiration dates will be

automatically extended to sixty days past the proposed Title V permit application submittal date.

The estimated actual emissions of sulfur dioxide, sulfuric acid mist (SAM), and nitrogen oxides from the sulfuric acid plants are presented in Table 2-1. Nitrogen oxide emissions from the sulfuric acid plants have been estimated by using an emission factor of 0.12 pound per ton of 100 percent H_2SO_4 produced, an emission factor used by FDEP in recent permitting of similar plants. Limited initial test data at one of the fertilizer plants indicate that the actual emissions of nitrogen oxides are consistently below the "generic" emission factor used in past permit applications. However, it is recognized that emissions can vary from site to site. Therefore, the same "generic" emission factor is utilized for evaluating the proposed project.

2.1.2 Molten Sulfur System

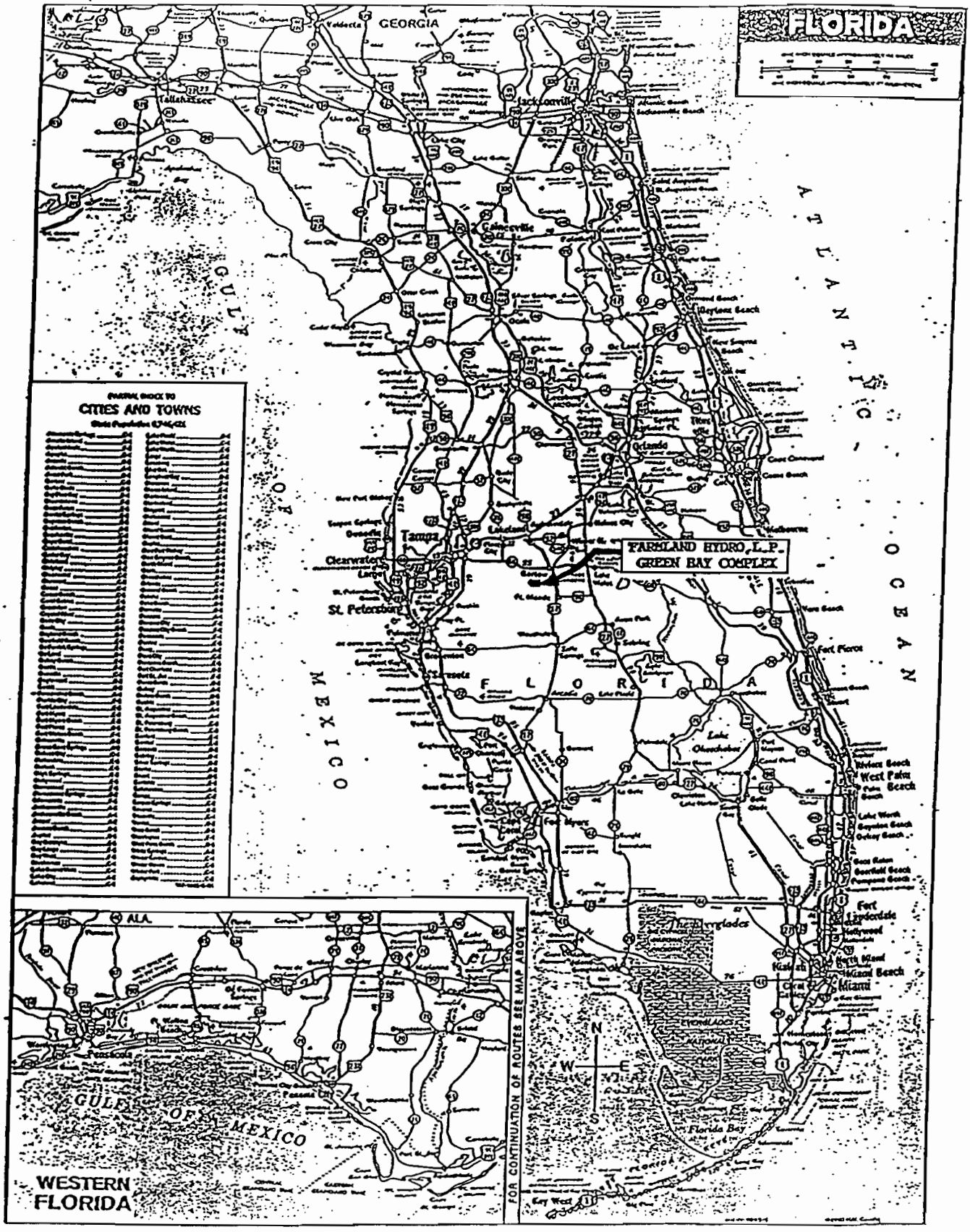
Molten sulfur is unloaded from railcars and trucks into pits. The rail and truck pits pump the sulfur to storage tanks. The molten sulfur is supplied to the sulfuric acid plants as needed. There are negligible air emissions from the molten sulfur system and as a result there is no add-on pollution control equipment.

The existing molten sulfur system is permitted to receive/handle upto 2020 TPD and 670,000 TPY of sulfur. The molten sulfur system is subject to the emission limiting standards as set forth in Rule 62-296.411, FAC. The standards require the use of specific work practices and limit visible emissions to 20 percent opacity. The current FDEP air permit for the molten sulfur system is A053-218118 (expires 11-15-95).

FIGURE 2-1

SITE LOCATION MAP

FARMLAND HYDRO, L.P.



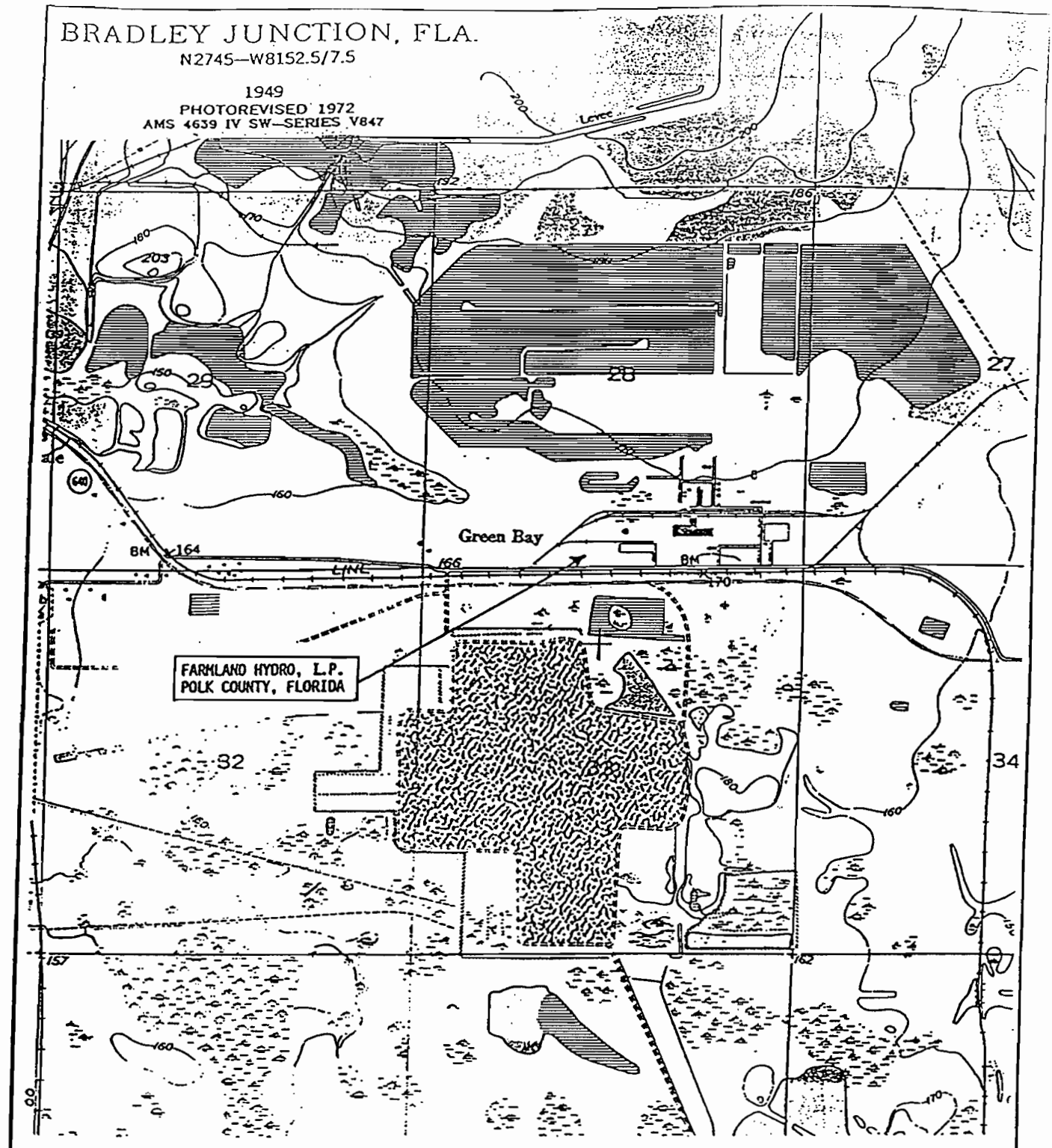


FIGURE 2-2

AREA LOCATION MAP

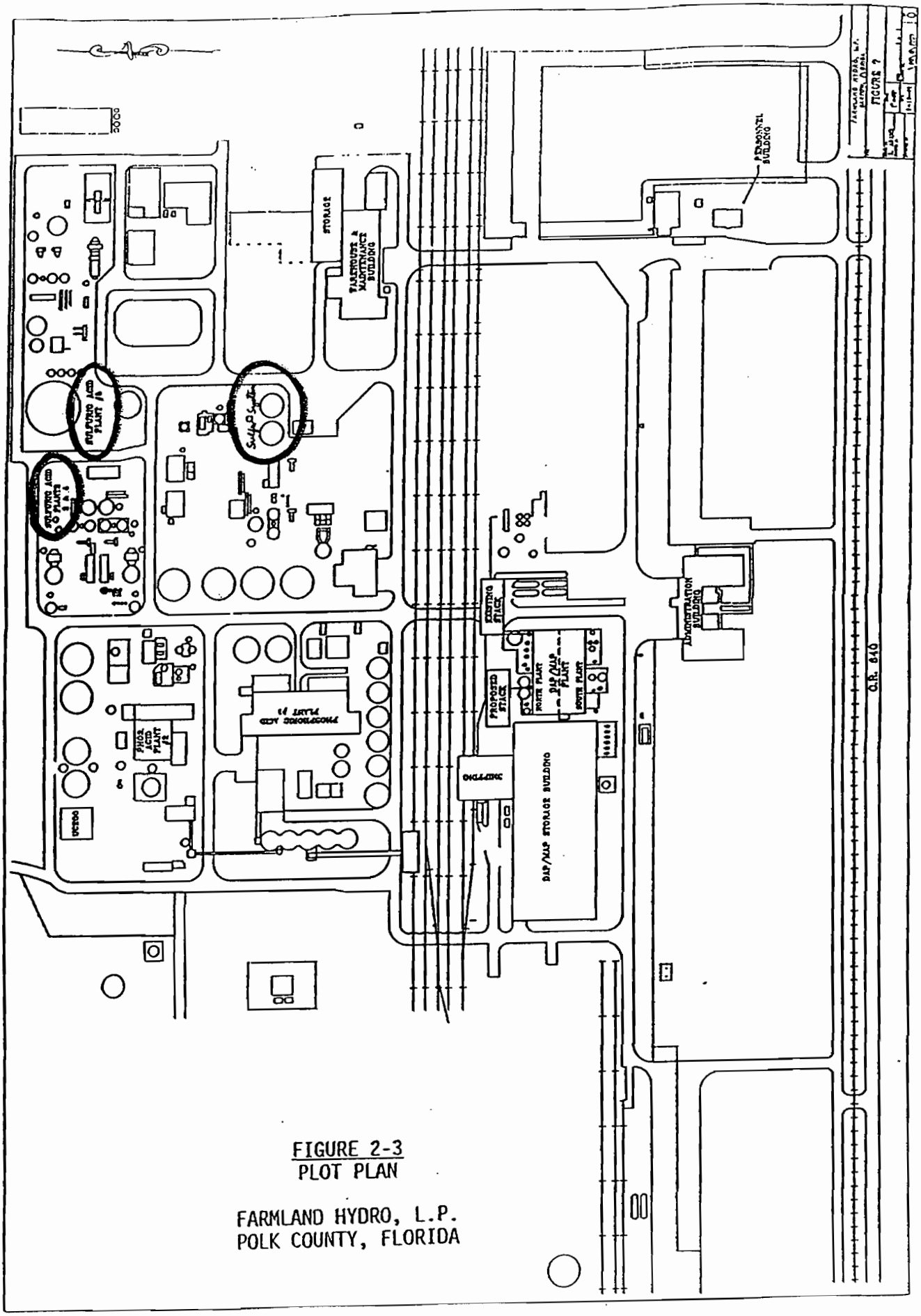


FIGURE 2-3
PLOT PLAN

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

TABLE 2-1

SUMMARY OF ACTUAL EMISSIONS(1)
SULFURIC ACID PLANTS AND SULFUR SYSTEM

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

POLLUTANT	ESTIMATED ACTUAL EMISSIONS (TPY)				
	Sulfuric Acid Plants				
	No.3	No.4	No.5	Sulfur System	TOTAL
SO2	661.4	695.7	803.5	14.22	2174.8
SAM	22.5	19.5	34.4	-	76.4
NOx	34.1	34.3	46.2	-	114.6
PM	-	-	-	7.71	7.7
H2S	-	-	-	9.45	9.5
VOC	-	-	-	14.02	14.0

NOTES:

(1) Sulfuric acid plant emissions estimated using compliance tests results and representative hours of operation. Nitrogen oxides emissions estimated using emission factor.

(2) Sulfur system emissions are estimated to be equal to permitted emissions.

(3) Emission calculations are presented in the Appendix.

3.0 PROPOSED PROJECT

3.1 PROJECT DESCRIPTION

Farmland proposes to increase the permitted sulfuric acid production rate of the three existing double absorption sulfuric acid plants from a total of 5640 to 7000 tons per day (TPD) of 100% H_2SO_4. The proposed project may involve an increase in the amount of catalyst utilized in the process, if necessary, without any equipment changes to plant Nos. 3 and 4. Production increase on plant No. 5, however, will require replacement of a small heat exchange unit with a larger heat exchange unit. It should be noted that the heat exchanger is not a source of air emissions.

The emission limits for the sulfuric acid plants will be in accordance with the Federal NSPS and Rule 17-296.402, FAC; i.e., the sulfur dioxide and acid mist emission limits will be 4.0 pounds per ton and 0.15 pounds per ton of 100 percent sulfuric acid, respectively.

The molten sulfur handling rates will increase from 2020 to 2525 TPD, or from 670,000 TPY to 840,000 TPY. The proposed project will involve no physical changes to the molten sulfur system. The emission limits for the molten sulfur system will be in accordance with Rule 17-296.411, FAC, limiting visible emissions to 20% opacity and maintaining proper operation practices.

The facility currently purchases additional sulfuric acid to meet the

fertilizer production demands. The proposed increase in sulfuric acid production will simply reduce purchase requirements. Therefore, the proposed project will not affect the operation of any other plants at the facility.

Process flow diagrams, for the sulfuric acid plant and the molten sulfur system, are presented in Figures 3-1 and 3-2.

A summary of the permitted, actual and proposed operating characteristics of the two systems are presented in Table 3-1. The net emission changes as a result of the proposed project are summarized in Table 3-2.

The information presented in Table 3-2 shows there will be a significant net increase in the annual emissions of sulfur dioxide and sulfuric acid mist, and a less than significant increase in the annual emissions of nitrogen oxides (as defined by Table 212.400-2, Chapter 62-212, FAC).

3.2 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a Prevention of Significant Deterioration (PSD) review.

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

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

A major facility is defined in the PSD rules as any one of the 28 specific

source categories (see Table 3-3) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 3-4).

3.2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 3-5). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas are usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements which would ensure continued attainment status.

3.2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO_2) and particulate matter (PM/TSP) which would constitute

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

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NOx) and PSD increments for nitrogen dioxide (NO_2) concentrations. FDEP adopted the NO_2 increments in July 1990 (see Table 3-6 for PSD increments).

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

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO_2 and PM (TSP) and February 8, 1988, for NO_2, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

3.2.3 Control Technology Evaluation

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

BACT is defined in Chapter 62-212, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

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

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

3.2.4 Air Quality Monitoring

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

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

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimis levels (see Table 3-4).

3.2.5 Ambient Impact Analysis

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

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

3.2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation that would occur as a result of the project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other

growth associated with the source must be addressed.

3.2.7 Good Engineering Practice Stack Height

In accordance with Rule 62-210.550, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the greater of:

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

   $Hg = H + 1.5\ L$

   where:

   Hg - GEP stack height,

   H - Height of the structure or nearby structure, and

   L - Lesser dimension, height or projected width of nearby structure(s)
3. A height demonstrated by a model or field study.

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

3.3 RULE APPLICABILITY

The sulfuric acid plant production increases at Farmland are classified as a major modification to a major source subject to both state and federal regulations as set forth in Rule 62-212, FAC. The facility is located in an area classified as attainment for each of the regulated air pollutants in accordance with Rule 62-275, FAC. The proposed project will result in significant increases in the emissions of sulfur dioxide and acid mist, as defined in Rule 62-212, FAC; and, will therefore be subject to PSD preconstruction review requirements (see Table 3-2). This will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

No PSD preconstruction review is required for the emissions of nitrogen oxides as the estimated emissions increase will be less than significant.

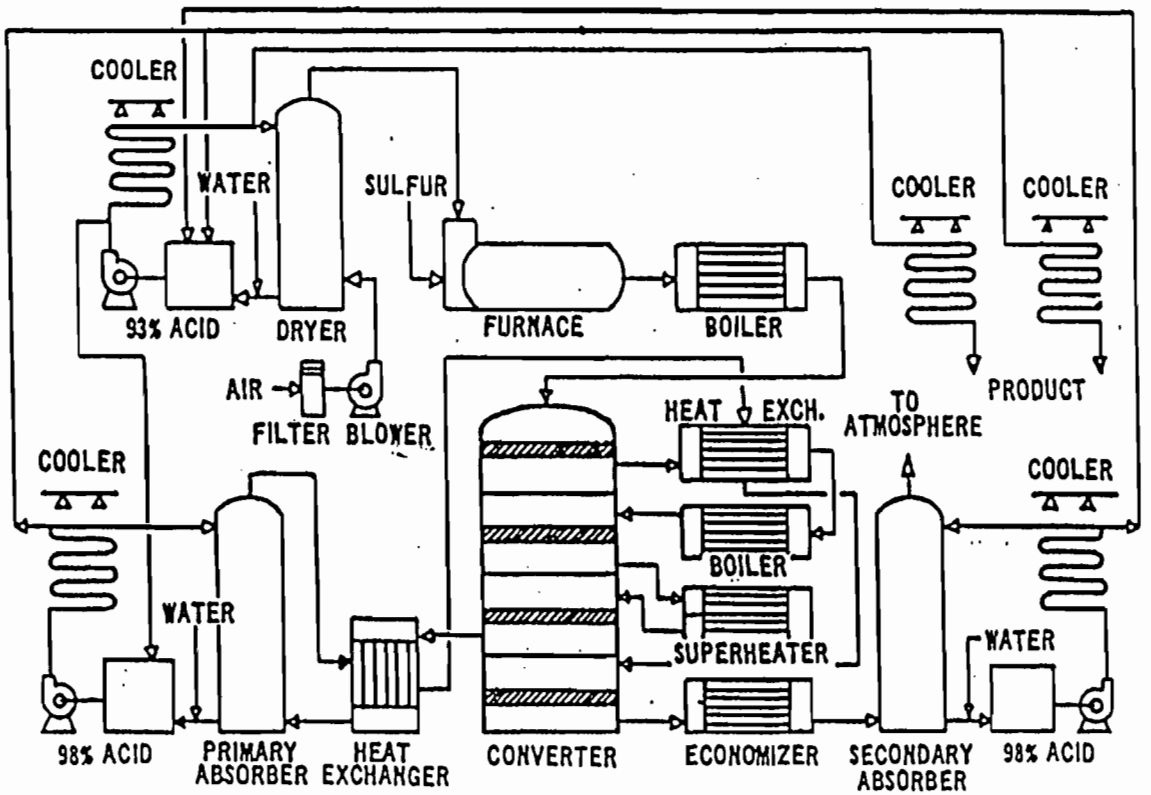


FIGURE 3-1
TYPICAL SULFURIC ACID
DOUBLE ABSORPTION PLANT
PROCESS FLOW DIAGRAM

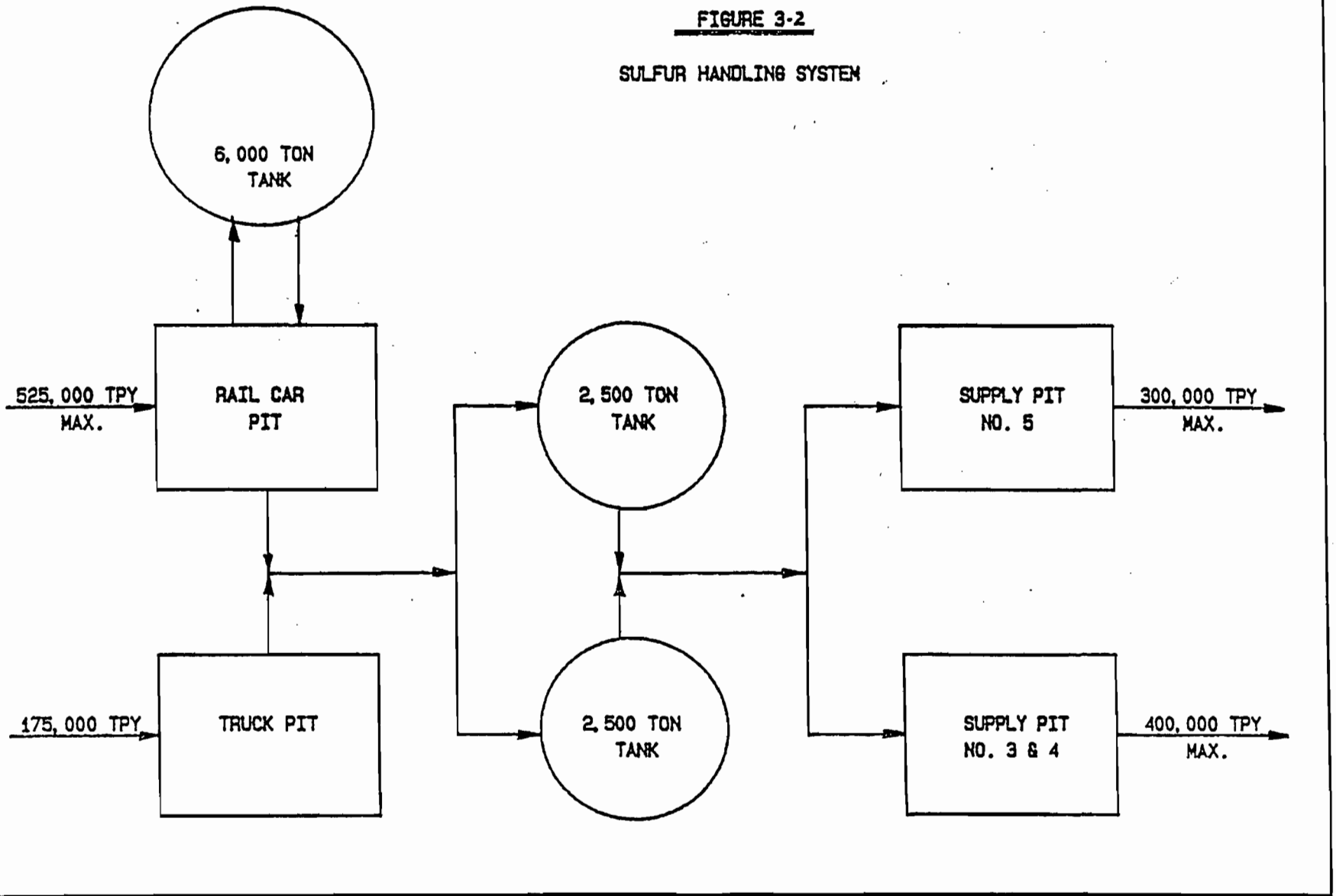
$S + O_2 \rightarrow SO_2$ (BURNER)

$SO_2 + \frac{1}{2} O_2 \rightleftharpoons SO_3$ (CONVERTER)

$SO_3 + H_2O \rightarrow H_2SO_4$ (ABSORBER)

FIGURE 3-2

SULFUR HANDLING SYSTEM



FARMLAND HYDRO, L.P. - CMJ 12/12/90

TABLE 3-1
SUMMARY OF EMISSION RATES

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

	EMISSIONS					
	PERMITTED		ACTUALS		PROPOSED	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Sulfuric Acid Plant No. 3						
Sulfur Dioxide	270.0	1183.0	157.0	661.4	350.0	1533.0
Acid Mist	10.1	54.7	5.4	22.5	13.1	57.5
Nitrogen Oxides	-	-	8.1	34.1	10.5	46.0
Annual Operating Hours	8760		8425		8760	
Sulfuric Acid Plant No. 4						
Sulfur Dioxide	270.0	1460.3	164.3	695.7	350.0	1533.0
Acid Mist	10.1	54.7	4.6	19.5	13.1	57.5
Nitrogen Oxides	-	-	8.1	34.3	10.5	46.0
Annual Operating Hours	8760		8471		8760	
Sulfuric Acid Plant No. 5						
Sulfur Dioxide	400.0	1460.3	189.4	803.5	466.7	2044.0
Acid Mist	15.0	54.7	8.1	34.4	17.5	76.7
Nitrogen Oxides	-	-	10.9	46.2	14.0	61.3
Annual Operating Hours	8760		8485		8760	
Sulfur System						
Sulfur Dioxide	-	14.2	-	14.2	-	17.9
Particulate Matter	-	7.7	-	7.7	-	9.7
Reduced Sulfur Cpds.	-	9.5	-	9.5	-	11.9
Volatile Organic Cpds.	-	14.0	-	14.0	-	17.7
Annual Operating Hours	8760		8760		8760	

NOTE: See Appendix for calculations of emission rates.

TABLE 3-2
NET EMISSION INCREASES(1)

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Pollutant	Net Emissions Increase (TPY)	Significant Increase (TPY)	PSD Review
Acid Mist	115.3	7	YES
Nitrogen Oxides	38.7	40	NO
Particulate Matter	2.0	25	NO
Reduced Sulfur Cpds.	2.4	10	NO
Sulfur Dioxide	2953.1	40	YES
Volatile Organic Cpds.	3.7	40	NO

NOTE: Calculations are presented in the Appendix.

TABLE 3-3
MAJOR FACILITY CATEGORIES

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr heat input
Coal cleaning plants (with thermal dryers)
Kraft pulp mills
Portland cement plants
Primary zinc smelters
Iron and steel mill plants
Primary aluminum ore reduction plants
Primary copper smelters
Municipal incinerators capable of charging more than 250 tons of refuse per day
Hydrofluoric acid plants
Sulfuric acid plants
Nitric acid plants
Petroleum refineries
Lime plants
Phosphate rock processing plants
Coke oven batteries
Sulfur recovery plants
Carbon black plants (furnace process)
Primary lead smelters
Fuel conversion plants
Sintering plants
Secondary metal production plants
Chemical process plants
Fossil fuel boilers (or combinations thereof) totaling more than 250 million BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 3-4
REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Pollutant	Significant Emission Rate tons/yr	De Minimis Ambient Impacts $\mu g/m^3$
CO	100	575 (8-hour)
NOx	40	14 (NO_2, Annual)
SO_2	40	13 (24-hour)
Ozone	40 (VOC)	-
PM	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H2S)	10	0.2 (1-hour)
H_2SO_4 mist	7	-
Fluorides	3	0.25 (24-hour)
Vinyl Chloride	1	15 (24-hour)
	pounds/yr	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)
Asbestos	14	-
Beryllium	0.8	0.001 (24-hour)

TABLE 3-5
AMBIENT AIR QUALITY STANDARDS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Pollutant	FDEP (State)		USEPA (National)			
			Primary		Secondary	
	$\mu g/m^3$	PPM	$\mu g/m^3$	PPM	$\mu g/m^3$	PPM
SO_2, 3-hour	1,300	0.5	-	-	1300	0.5
24-hour	260	0.1	365	0.14	-	-
Annual	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
Annual	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
8-hour	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO_2, Annual	100	0.053	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 3-6
PSD INCREMENTS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Pollutant	Allowable PSD Increments (State/National) Class I $\mu g/m^3$	Class II $\mu g/m^3$	Class III $\mu g/m^3$
TSP, Annual	5	19	37
24-hour	10	37	75
SO_2, Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO_2, Annual	2.5	25	50

4.0 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 (see Table 3-4 for significant emission levels). The emission rate increases proposed by Farmland have been summarized in Table 3-2. A BACT analysis will be required for sulfur dioxide and sulfuric acid mist.

4.1 EMISSION STANDARDS

4.1.1 Sulfuric Acid Plant

Federal New Source Performance Standards (NSPS) for sulfuric acid plants became effective on August 17, 1971. These standards are codified in 40CFR60, Subpart H and require sulfur dioxide emissions to be limited to no more than 4.0 pounds per ton of 100 percent acid produced and require that sulfuric acid mist emissions be limited to no more than 0.15 pounds per ton of 100 percent acid produced. Additionally, the standards limit the opacity of the emissions from new sulfuric acid plants to less than 10 percent. There are no emission standards for nitrogen oxides from sulfuric acid plants.

When EPA reviewed the NSPS for sulfuric acid plants most recently, it was concluded that because of the expected variations in sulfur dioxide emissions "... the level of SO_2 emissions as specified in the current NSPS (should) not be changed at this time." Regarding the NSPS for sulfuric acid mist, EPA concluded, "Making the acid mist standard more stringent is not believed to be practical at this time 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." It is our understanding that there has been no recent change in EPA philosophy related to sulfuric acid plants.

A review of BACT/LAER determinations published in the EPA Clearinghouse, and those of recent projects in Florida, indicate that the double absorption process is considered BACT. No new demonstrated control alternatives have been applied to sulfuric acid plants that would result in a consistent reduction in sulfur dioxide emission below 4.0 pounds per ton of acid nor would result in a consistent reduction of sulfuric acid mist emissions below 0.15 pounds per ton of acid.

4.1.2 Molten Sulfur System

The molten sulfur system is subject to the emission limiting standards as set forth in Rule 62-296.411, FAC. The standards require the use of specific work practices and limit visible emissions to 20 percent opacity. No control technologies for a molten sulfur system are discussed in either the NSPS review or in BACT/LAER determinations.

4.2 EMISSION CONTROL TECHNOLOGIES

4.2.1 Sulfuric Acid Plant

The control of sulfur dioxide and sulfuric acid mist emissions from sulfuric acid plants can be achieved by various processes. The process of choice for sulfur dioxide control has been dual 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 the March 1985 review (EPA-450/3-85-012), EPA reviewed the control technologies that had been used to control sulfur dioxide and sulfuric acid mist emissions from sulfuric acid plants. The alternatives included the dual 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 on sulfuric acid plants indicated that all the recent determinations have concluded that the double absorption process represents BACT for sulfur dioxide emissions; and, mist eliminators represent BACT for acid mist emissions.

In a 1985 report on review of NSPS for sulfuric acid plants, EPA reviewed 46 sulfuric acid plants built between 1971 and 1985. Of these 46 plants, 40 used the dual absorption process for sulfur dioxide control with the remaining six using some type of acid gas scrubbing. The advantages of the dual absorption process over other SO_2 control technologies are:

a. 99.4 percent of the sulfur is converted to sulfuric acid compared with 97.7 percent conversion with a single absorption plant followed by scrubbing;

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 efficiency; and

f. there is no increase in manpower requirements.

The dual absorption process is capable of reducing sulfur dioxide emission rates to within 4.0 pounds per ton of acid as required by New Source Performance Standards. Recent BACT determinations (in 1992-94) also reflect a sulfur dioxide emission limit of 4.0 pounds per ton using the double absorption process.

All of 46 plants reviewed by EPA used the high efficiency mist eliminators which are capable of reducing sulfuric acid mist emission rates to within 0.15 pounds per ton of acid as required by NSPS. The mist eliminators are the control of choice 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. Recent BACT determinations (in 1992-94) reflect an emission limit based on the NSPS.

4.2.2 Molten Sulfur System

No add-on control technologies have been required or recommended by EPA or FDEP for molten sulfur systems as the emissions of air pollutants are negligible.

4.3 CONCLUSION

Based upon the above discussion, the dual absorption process is selected by Farmland as the control alternative for sulfur dioxide to limit emissions to 4.0 lb/ton 100% acid; and, high efficiency mist eliminators for sulfuric acid mist to limit emissions to 0.15 lb/ton 100% acid. Emission limits lower than NSPS are not proposed in order to maintain an operation margin that will allow for the fluctuation in the emission rates.

The emission limits for the molten sulfur system reflecting BACT will be in accordance with Rule 62-296.411, FAC, limiting visible emissions to 20% opacity and maintaining proper operation practices.

5.0 AIR QUALITY REVIEW

The air quality review required of a PSD construction permit application potentially requires both air quality modeling and air quality monitoring. The air quality monitoring is required when the impact of air pollutant emission increases and decreases associated with a proposed project exceed the de minimis impact levels (see Table 3-4) 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 increases and decreases in air pollutant emissions associated with the project, combined with all other applicable air pollutant emission rate increases and decreases associated with new 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 included emission increases associated with the sulfuric acid plant and the molten sulfur system. The pollutants evaluated include sulfur dioxide and sulfuric acid mist.

5.1 AIR QUALITY MODELING FOR SULFUR DIOXIDE

5.1.1 Area of Significant Impact

The emission rates of sulfur dioxide used for air quality modeling purposes to determine the area of significant impact (ASI) represent the proposed net increase in the emission rate associated with the increased sulfuric acid production rates. It should be noted that the sulfur dioxide emissions from the molten sulfur system were not included as there will be no change in the hourly emissions. A positive emission rate representing proposed sulfur dioxide emissions from the sulfur system would simply offset an identical negative emission rate representing current emissions. Table 5-1 contains modeling input parameters used in the ambient air quality impacts analysis.

The impact analysis of the net increase in sulfur dioxide emissions was conducted using the Industrial Source Complex-Short Term 2 (ISC-ST2) air quality model, Version 93109, 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 sulfur dioxide emissions from sulfuric acid plants 3, 4, and 5 were modeled to determine the ASI. The currently permitted sulfur dioxide emission rates were represented as a negative input while the proposed sulfur dioxide emission rate was represented as a positive input to the model.

The ASI modeling included discrete receptors at the facility property boundary and additional receptors established by the polar grid system extending to 13 kilometers from the plant. The discrete receptors were placed along the property boundary at 100 meter intervals. Twelve sets of receptor rings were placed at distances ranging from about 500 to 13,000 meters from the plant with receptors placed at 10 degree intervals from 10° to 360° on each receptor ring, with the exclusion of receptors within Farmland's property boundary. The downwind receptor distances were selected in order to provide a higher concentration of receptors closer to the source where the maximum impacts were expected. Receptor locations are shown in Figure 5-1.

The results of the ASI modeling, summarized in Table 5-2, demonstrate that the predicted ambient air quality impact of the sulfur dioxide emission increase from the proposed project are greater than significant for the 3-hour, 24-hour and annual periods. The ASI modeling also demonstrated that the predicted impacts from the proposed project are significant upto a distance of about 13 kilometers.

As the predicted sulfur dioxide impacts from the proposed project are significant, additional modeling was required to determine compliance with the ambient air quality standards and allowable PSD increments.

5.1.2 Class II Area AAQS and PSD Increment Analysis

The Ambient Air Quality Standards (AAQS) Analysis and the PSD Increment (PSD) Analysis was conducted to determine the combined ambient air impact of the proposed project and other nearby sulfur dioxide emitting sources. 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 5-3. The corresponding sources at the significant facilities which contribute to the ambient air concentration and the PSD increment consumption/expansion in the Class II area are presented in Tables 5-4 and 5-5, 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 analysis indicate that the maximum predicted 3-hour and 24-hour period impacts for the Class II area exceed the standards, as shown in Table 5-6. However, additional analyses comparing the contribution of Farmland to the cumulative impacts demonstrate that the proposed project is not expected to cause or significantly contribute to any violation of the ambient air quality standard.

5.1.3 Class I Area PSD Increment Analysis

A Class I area PSD increment analysis was performed using the ISC model. The modeling was performed to determine the Class I PSD increment consumption at Chassahowitzka National Wildlife Refuge. All the sources in the Class I area emission inventory, updated by FDEP (see Table 5-7) were included in the modeling. The Class I area receptors recommended by FDEP were used in the modeling.

The modeling results indicate that the maximum predicted impacts exceed

the allowable 3-hour and 24-hour Class I area increments (see Table 5-8). Consequently, additional modeling was conducted to determine the contribution of the proposed project to the overall predicted impacts.

The results of the modeling analyses indicate that the proposed project is not expected to cause or significantly contribute to any violation of the allowable Class I area PSD increment.

5.2 AIR QUALITY REVIEW FOR SULFURIC ACID MIST

No ambient air quality standards, PSD increments or significant impact levels have been established for sulfuric acid mist. FDEP's current permitting guideline for air toxics requires temporary facilities to evaluate short-term impacts for comparison with Air Reference Concentrations (ARC) listed in Version 3 of the Air Toxics List. However, permanent facilities have to evaluate annual impacts to compare with the ARCs. As there is no annual ARC for sulfuric acid mist, no comparisons are required.

It should be noted that the maximum sulfuric acid mist impacts from the proposed project are predicted to occur at locations which are both remote and far from the population centers (based on the results of the modeling for sulfur dioxide emissions). Also, the sulfuric acid mist will be controlled by the Best Available Control Technology. As a result, the sulfuric acid mist emissions are not expected to be of concern.

FIGURE 5-1

RECEPTOR LOCATIONS
USED IN THE AMBIENT AIR QUALITY ANALYSIS

FARMLAND HYDRO, LP
BARTOW, FLORIDA

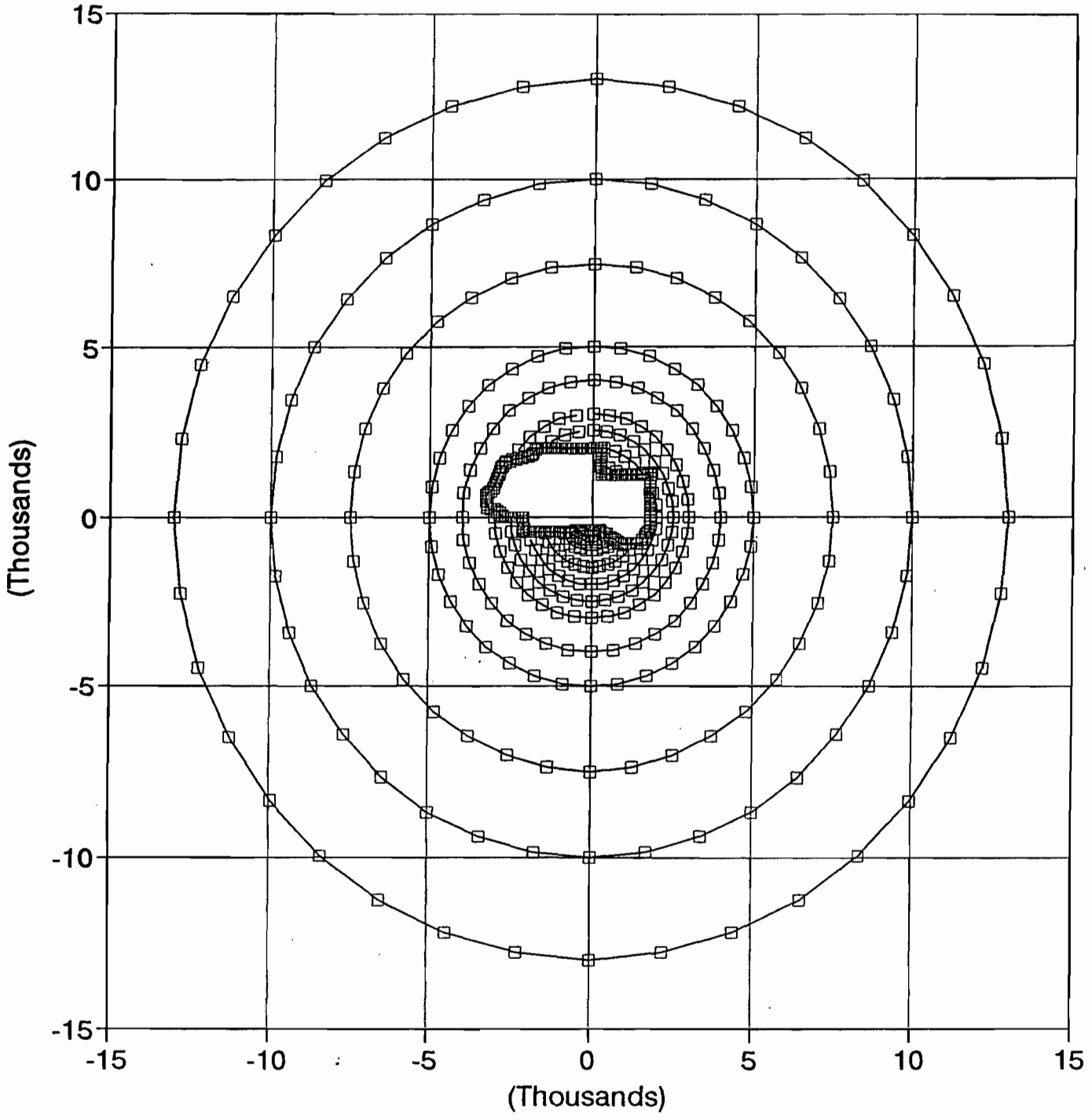


TABLE 5-1

AIR QUALITY MODELING PARAMETERS
FOR SULFUR DIOXIDE

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

H_2SO_4 Plant	SO_2 (g/s)	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)
Existing					
3 SAD	-33.58	30.48	2.29	9.27	355
4 SAD	-33.58	30.48	2.29	9.27	355
5 SAD	-50.40	45.72	2.44	11.50	355
Proposed					
3 SAD	44.10	30.48	2.29	12.02	355
4 SAD	44.10	30.48	2.29	12.02	355
5 SAD	58.80	45.72	2.44	13.42	355

TABLE 5-2

SUMMARY OF SULFUR DIOXIDE SIGNIFICANT IMPACT ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

METEOROLOGICAL DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)*		
	ANNUAL (1)	3-HOUR (2)	24-HOUR (2)
1987	1.29	57.98	15.65
1988	1.00	63.42	14.97
1989	1.21	62.26	18.60
1990	1.24	67.71	14.50
1991	1.06	58.84	15.22
Significant Impact (Rule 62-212, FAC)	1.0	25.0	5.0
De minimis Impact (Rule 62-212,FAC)	NA	NA	13.0

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) The impacts are based on the net increase in sulfur dioxide emissions from the proposed project of 29.44 g/s.

TABLE 5-3
Class II Area SO_2 Emitting
Significant Facilities (20 D Table)
Farmland Hydro, L.P. - Bartow
Polk County, Florida

SO2 "20 D" SOURCE INVENTORY FOR FARMLAND HYDRO PLANT			Source Location	410.330	3079.655
SOURCE DESCRIPTION	UTM Coordinates (km) EAST	NORTH	SO2 TPY	Distance (Km)	20-D Emission (TPY)
ASPHALT PAVERS 3	359.900	3162.400	78	97	1938
ASPHALT PAVERS 4	361.400	3168.400	61	101	2027
ATLANTIC SUGAR	553.300	2945.000	567	196	3928
AUBURNDALE	420.800	3103.300	221	26	517
BORDEN DRYER	394.800	3069.600	-225	19	370
BORDEN DRYER	414.500	3109.000	-184	30	593
BREWSTER/IMPERIAL	404.800	3069.500	-670	12	231
CARGILL/GARDINIER MINE	415.300	3063.300	612	17	342
CARGILL/GARDINIER	363.400	3082.400	5870	47	940
CARGILL/SEMINOLE/W.R. GRACE	409.770	3086.990	5007	7	147
CF BARTOW	408.500	3082.500	5145	3	68
CF PLANT CITY	388.000	3116.000	9048	43	853
CITRUS WORLD	441.000	3087.300	1604	32	632
CLM CHLORIDE METALS	361.800	3088.300	731	49	986
CONSOLIDATED MINERALS	393.800	3096.300	943	23	469
COUCH CONST-ODESSA	340.700	3119.500	252	80	1604
COUCH CONST-ZEPHYRHILLS	390.300	3129.400	123	54	1073
DOLIME	404.813	3069.548	-355	12	230
DRIS PAVING	340.600	3119.200	8	80	1603
ER JAHNA	386.700	3155.800	29	80	1595
ESTECH/SWIFT	411.500	3074.200	-4856	6	112
EVANS PACKING	383.300	3135.800	2188	62	1246
FARMLAND	410.330	3079.655	5208	0	0
FDOC	382.200	3166.100	104	91	1818
FLA MINING & MATERIALS	356.200	3169.900	50	105	2105
FLORIDA CRUSHED STONE	360.008	3162.398	3423	97	1937
FPC ANCLOTE	324.400	3118.700	116916	94	1888
FPC BARTOW	342.400	3082.600	65956	68	1360
FPC BAYBORO	338.800	3071.300	6881	72	1440
FPC CRYSTAL RIVER	334.200	3204.500	133484	146	2925
FPC DEBARY	467.500	3197.200	16224	131	2614
FPC HIGGINS	336.500	3098.400	12082	76	1523
FPC INTERSESSION CITY	446.300	3126.000	8168	59	1173
FPC OSCEOLA	446.300	3126.000	4380	59	1173
FPC POLK	414.400	3073.910	1720	7	141
FPL FT MYERS	422.100	2952.900	26872	127	2546
FPL MANATEE	367.200	3054.100	83410	50	1003
GAINESVILLE REGIONAL UTILITIES	365.500	3292.700	197	218	4354
GEN. PORT. CEMENT	358.000	3090.600	-4602	53	1069
GOLD BOND	347.300	3082.700	320	63	1262
GULF COAST RECYCLING	364.000	3093.500	1711	48	967
HARDEE	404.800	3057.400	9857	23	459
HILLS. CO. RESOURCE RECOVERY	368.200	3092.700	744	44	882
HOSP CORP OF AMERICA	333.400	3141.000	6	98	1968
IMC - AGRICO /NICHOLS/CONSERVE	398.400	3084.200	1978	13	255
IMC-AGRICO/NEW WALES	396.600	3078.900	11416	14	275
IMC-AGRICO/NORALYN	414.700	3080.300	504	4	88
IMC-AGRICO/PIERCE	404.100	3078.950	-1646	6	125
IMC-AGRICO/SO. PIERCE	407.500	3071.300	4676	9	176
KISSIMMEE KANE IS.	447.680	3127.920	1023	61	1221
KISSIMMEE UTILITIES	460.100	3129.300	1117	70	1406
LAKE CO. COGEN.	434.000	3198.800	175	121	2429
LAKELAND LARSEN	409.300	3102.800	4944	23	463
LAKELAND MCINTOSH	409.200	3106.200	30563	27	531
MOBIL BIG-4	394.850	3069.770	87	18	367
MOBIL NICHOLS	398.300	3084.300	971	13	258
MOBILE ELECTROPHOS	405.600	3079.400	-3337	5	95

TABLE 5-3
Class II Area SO_2 Emitting Significant Facilities (20 D Table)
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Concluded)

SO2 "20 D" SOURCE INVENTORY FOR FARMLAND HYDRO PLANT			Source Location	410.330	3079.655
SOURCE DESCRIPTION	UTM Coordinates (km) EAST	NORTH	SO2 TPY	Distance (Km)	20-D Emission (TPY)
MULBERRY COGENERATION	413.600	3080.600	466	3	68
MULBERRY PROSPHATES/ROYSTER	406.700	3085.200	1280	7	133
NEW PORT RICHEY HOSPITAL	331.200	3124.500	3	91	1819
NITRAM	363.100	3089.000	108	48	963
OMAN CONSTRUCTION	359.800	3164.900	73	99	1982
ORLANDO UTIL STANTON	483.500	3150.600	24100	102	2038
OVERSTREET PAVING	355.900	3143.700	128	84	1681
PANDA KATHLEEN	398.700	3101.400	25	25	493
PASCO CO. COGEN.	385.600	3139.000	175	64	1286
PASCO COUNTY RRF	347.100	3139.200	490	87	1737
PINELLAS RRF	335.300	3084.400	2165	75	1504
PINEY POINT/ROYSTER	348.700	3057.300	1719	66	1311
REEDY CREEK SERVICES	443.000	3144.300	133	72	1449
RIDGE COGENERATION	416.700	3100.400	480	22	434
SEBRING UTILITIES	464.300	3035.400	3868	70	1396
SECI HARDEE	404.900	3057.400	223	23	458
STAUFFER ROASTER	325.600	3116.700	-2265	92	1849
SUGAR CANE GROWERS	534.900	2953.300	4936	177	3549
SULFUR TERMINALS	358.000	3090.000	104	53	1067
TAMPA GENERAL HOSP	356.400	3091.000	59	55	1102
TAMPA MCKAY BAY RRF	360.000	3091.000	744	52	1032
TECO BIG BEND	361.900	3075.000	372294	49	973
TECO GANNON	360.000	3087.500	127495	51	1019
TECO HOOKERS POINT	358.000	3091.000	13535	54	1071
TECO POLK POWER	402.488	3066.914	4031	15	299
THATCHER GLASS	361.800	3088.300	177	49	986
USS AGRI-CHEM BARTOW	413.200	3086.300	-1580	7	145
USSAC FT MEADE	416.120	3068.620	3217	12	249

NOTE; Facilities with negative emissions represent shutdown facilities.

TABLE 5-4
SO_2 Class II Area FAAQS Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida

SO2 SOURCE INVENTORY FOR FARMLAND HYRDO PLANT		A A Q S					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
CARGILL/GARDINIER DAP	0.96	363.400	3082.400	60.40	320.0	13.40	2.13
CARGILL/GARDINIER GTSP	1.90	363.400	3082.400	38.40	328.0	11.56	2.44
CARGILL/GARDINIER MINE ROCK DRYER	17.60	415.300	3063.300	19.20	290.0	7.00	2.90
CARGILL/GARDINIER SAP #7	46.20	363.400	3082.400	45.60	340.0	12.64	2.29
CARGILL/GARDINIER SAP #8	52.50	363.400	3082.400	45.60	339.0	13.93	2.44
CARGILL/GARDINIER SAP #9	67.20	363.400	3082.400	45.60	350.0	12.66	2.74
CARGILL/SEMINOLE/W.R. GRACE DAP 4	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	7.93	408.500	3082.500	36.40	339.0	16.11	2.13
CF BARTOW DAP 1-3	3.97	408.500	3082.500	36.40	339.0	16.11	2.13
CF BARTOW SAP 5	50.40	408.500	3082.500	63.41	361.0	10.88	2.13
CF BARTOW SAP 6	50.40	408.500	3082.500	63.41	370.0	7.28	2.13
CF BARTOW SAP 7	42.00	408.500	3082.500	67.10	351.0	9.80	2.40
CF PLANT CITY	19.98	388.000	3116.000	7.62	560.8	17.74	1.07
CF PLANT CITY	0.12	388.000	3116.000	2.44	373.0	0.33	0.61
CF PLANT CITY DAP A	3.00	388.000	3116.000	28.70	326.0	7.90	3.00
CF PLANT CITY DAP X	13.20	388.000	3116.000	54.90	325.0	9.80	2.80
CF PLANT CITY DAP Z	13.20	388.000	3116.000	54.90	331.0	13.10	2.80
CF PLANT CITY GTSP X	13.20	388.000	3116.000	54.90	314.0	7.90	2.80
CF PLANT CITY SAP A&B	88.20	388.000	3116.000	33.50	316.0	19.50	1.52
CF PLANT CITY C & D	109.20	388.000	3116.000	60.35	353.0	17.77	2.44
CITRUS WORLD DRYER 1	8.10	441.000	3087.300	22.90	323.0	10.70	1.00
CITRUS WORLD DRYER 2	19.00	441.000	3087.300	22.90	325.0	12.20	0.80
CITRUS WORLD DRYER 3	19.00	441.000	3087.300	24.40	313.0	21.90	0.80
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	409.500	3079.500	28.96	605.2	3.58	1.68
FARMLAND	0.39	409.500	3079.500	12.19	366.3	2.67	0.61
FARMLAND 2 & 3 SAP	88.20	410.330	3079.655	30.48	355.0	12.02	2.29
FARMLAND 5 SAP	58.80	410.330	3079.655	45.72	355.0	13.42	2.44
FPC BARTOW PEAKING 1-4	286.90	342.400	3082.600	13.70	772.0	22.30	5.30
FPC BARTOW PIPELINE HEATER	1.80	342.400	3082.600	9.10	541.0	5.20	0.90
FPC BARTOW UNIT 1 & 2	896.80	342.400	3082.600	91.40	429.0	36.30	2.70
FPC BARTOW UNIT 3	710.54	342.400	3082.600	91.40	408.0	34.40	3.40
FPC INT. CITY TURBINES/7EA	124.40	446.300	3126.000	15.24	819.8	56.21	4.21
FPC INT. CITY TURBINES/7EA	110.40	446.300	3126.000	15.24	880.8	32.07	7.04
FPC OSCEOLA PEAKING 1,2,4-6	104.90	446.300	3126.000	7.90	704.0	18.00	4.20
FPC OSCEOLA PEAKING 3	21.00	446.300	3126.000	4.60	505.0	18.00	4.20
FPC POLK	49.44	414.400	3073.910	34.40	400.0	40.50	4.10
FPL MANATEE UNIT 1 & 2	2397.80	367.200	3054.100	152.10	426.0	17.10	8.00
GULF COAST RECYCLING	0.75	364.000	3093.500	8.84	309.1	20.85	0.34
GULF COAST RECYCLING	48.45	364.000	3093.500	29.57	344.1	37.59	0.61
HARDEE	277.60	404.800	3057.400	22.90	389.0	23.90	4.88
IMC - AGRICO /NICHOLS/CONSERVE SAP	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

TABLE 5-4
SO_2 Class II Area FAAQS Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Continued)

SO2 SOURCE INVENTORY FOR FARMLAND HYRDO PLANT		A A Q S					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
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	182.85	396.600	3078.900	61.00	350.0	15.31	2.60
IMC-AGRICO/NEW WALES SAP #4,5	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 SAP	113.40	407.500	3071.300	45.73	350.0	39.06	1.60
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 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	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER SAP	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
MULBERRY PROSPHATES/ROYSTER DAP	1.10	406.700	3085.200	31.10	316.0	7.90	2.70
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
RIDGE COGENERATION	13.80	416.700	3100.400	99.10	350.0	14.54	3.05
TECO BIG BEND TURBINE 1	11.30	361.900	3075.000	10.70	816.0	136.20	1.50
TECO BIG BEND TURBINE 2&3	79.18	361.900	3075.000	22.86	770.8	18.74	4.27
TECO BIG BEND UNIT 1	3309.00	361.900	3075.000	149.35	404.7	13.74	7.32
TECO BIG BEND UNIT 2	3275.32	361.900	3075.000	149.35	404.7	13.02	7.32
TECO BIG BEND UNIT 3	3372.92	361.900	3075.000	149.35	410.2	14.47	7.32
TECO BIG BEND UNIT 4	654.70	361.900	3075.000	149.40	342.2	19.81	7.32
TECO GANNON 1 & 2	760.86	360.000	3087.500	93.27	420.8	30.85	3.05
TECO GANNON 3	483.96	360.000	3087.500	93.27	419.7	38.64	3.23
TECO GANNON 4	567.71	360.000	3087.500	93.27	426.9	22.97	3.05
TECO GANNON 5	691.28	360.000	3087.500	93.27	423.6	23.18	4.45
TECO GANNON 6	1149.41	360.000	3087.500	93.27	433.0	24.74	5.36
TECO GANNON TURBINE	11.90	360.000	3087.500	10.67	816.3	136.61	1.52
TECO HOOKERS POINT 1 & 2	82.60	358.000	3091.000	85.30	419.0	6.10	3.40
TECO HOOKERS POINT 3 & 4	114.00	358.000	3091.000	85.30	434.0	7.90	3.70
TECO HOOKERS POINT 5	84.60	358.000	3091.000	85.30	448.0	11.00	3.40
TECO HOOKERS POINT 6	107.90	358.000	3091.000	85.30	434.0	22.30	2.90
TECO POLK POWER	0.016	402.016	3067.640	22.90	1000.0	20.00	1.20
TECO POLK POWER	1.27	402.298	3067.297	60.70	1033.0	9.10	1.10
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	0.30	402.420	3067.320	6.10	533.0	13.10	0.91
TECO POLK POWER	5.42	402.488	3066.954	22.86	812.0	27.43	5.49
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

TABLE 5-4
SO_2 Class II Area FAAQS Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Concluded)

SO2 SOURCE INVENTORY FOR FARMLAND HYRDO PLANT		A A Q S					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
TECO POLK POWER	4.41	402.450	3067.212	45.72	389.0	16.15	4.42
TECO POLK POWER	4.41	402.450	3067.070	45.72	389.0	16.15	4.42
TECO POLK POWER	4.41	402.450	3067.030	45.72	389.0	16.15	4.42
TECO POLK POWER	5.42	402.488	3066.954	22.86	812.0	27.43	5.49
TECO POLK POWER	6.68	402.488	3066.914	22.86	785.0	31.39	5.49
TECO POLK POWER	6.68	402.488	3066.807	22.86	785.0	31.39	5.49
TECO POLK POWER	6.68	402.488	3066.768	22.86	785.0	31.39	5.49
TECO POLK POWER	6.68	402.488	3066.692	22.86	785.0	31.39	5.49
TECO POLK POWER	6.68	402.488	3066.652	22.86	785.0	31.39	5.49
TECO POLK POWER	0.30	402.420	3067.320	6.10	533.0	13.10	0.91
TECO POLK POWER	8.20	402.328	3067.472	60.70	1033.0	10.70	1.40
TECO POLK POWER	0.016	402.016	3067.640	22.90	1000.0	20.00	1.20
TECO POLK POWER	1.27	402.298	3067.297	60.70	1033.0	9.10	1.10
USSAC FT MEADE SAP 1 & 2	92.48	416.120	3068.620	53.40	355.0	10.00	2.59

TABLE 5-5
SO_2 Class II Area PSD Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida

SO2 SOURCE INVENTORY FOR FARMLAND HYDRO PLANT		PSD - CLASS II					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km) EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
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	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 SAP 1	-60.90	408.500	3082.500	30.49	350.0	12.20	1.37
CF BARTOW SAP 2	-110.25	408.500	3082.500	30.49	350.0	10.37	1.68
CF BARTOW SAP 3	-107.10	408.500	3082.500	30.49	364.0	4.27	2.74
CF BARTOW SAP 4	-174.83	408.500	3082.500	30.49	358.0	7.93	2.13
CF BARTOW SAP 5	50.40	408.500	3082.500	63.41	361.0	10.88	2.13
CF BARTOW SAP 5	-226.80	408.500	3082.500	63.41	358.0	10.67	2.13
CF BARTOW SAP 6	50.40	408.500	3082.500	63.41	370.0	7.28	2.13
CF BARTOW SAP 6	-170.10	408.500	3082.500	63.41	359.0	10.37	2.13
CF BARTOW SAP 7	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 SAP A&B	88.20	388.000	3116.000	33.50	316.0	19.50	1.52
CF PLANT CITY SAP C & D	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	-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	-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 SAP	-83.98	410.330	3079.655	30.48	311.0	20.18	1.37
FARMLAND 2 & 3 SAP	-68.04	410.330	3079.655	30.48	355.0	9.27	2.29
FARMLAND 2 & 3 SAP	88.20	410.330	3079.655	30.48	355.0	12.02	2.29
FARMLAND 5 SAP	-50.40	410.330	3079.655	45.72	355.0	11.55	2.44
FARMLAND 5 SAP	58.80	410.330	3079.655	45.72	355.0	13.42	2.44
FPC INT. CITY TURBINES/7EA	124.40	446.300	3126.000	15.24	819.8	56.21	4.21
FPC INT. CITY TURBINES/7EA	110.40	446.300	3126.000	15.24	880.8	32.07	7.04
FPC POLK	49.44	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 SAP 2-UNITS	-54.60	398.400	3084.200	30.50	308.0	18.90	1.80
IMC - AGRICO /NICHOLS/CONSERVE SAP	-42.00	398.400	3084.200	45.70	352.0	10.30	2.30
IMC - AGRICO /NICHOLS/CONSERVE SAP	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	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	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

TABLE 5-5
SO_2 Class II Area PSD Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Concluded)

SO2 SOURCE INVENTORY FOR FARMLAND HYDRO PLANT	PSD - CLASS II						
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km) EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
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 SAP	113.40	407.500	3071.300	45.73	350.0	39.06	1.60
IMC-AGRICO/SO. PIERCE SAP	-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 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	-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	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER SAP	-152.71	406.700	3085.200	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER SAP	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
RIDGE COGENERATION	13.80	416.700	3100.400	99.10	350.0	14.54	3.05
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	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	-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 SAP	-78.80	416.210	3068.740	29.00	314.0	6.77	3.02
USSAC FT MEADE SAP 1 & 2	92.48	416.120	3068.620	53.40	355.0	10.00	2.59

TABLE 5-6
SUMMARY OF CLASS II AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

MET. DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)					
	PSD			AAQS		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	490.09	81.27	39.00	533.22	163.26
1988	0	466.37	86.24	34.79	561.91	151.02
1989	0	483.20	59.96	40.61	569.54	205.60
1990	0	415.31	115.91 (3)	39.52	535.01	180.33
1991	0	407.28	81.10	38.55	561.39	154.93
INCREMENT & STD.	20	512	91	60	1300	260
(Rule 62-212 & 275, FAC)						

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) Farmland's maximum contribution, of 0.022 $\mu g/m^3$, is less than significant (see analysis in Appendix).

TABLE 5-7
SO_2 Class I Area PSD Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida

SO2 SOURCE INVENTORY FOR FARMLAND HYDRO PLANT		PSD - CLASS I					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km) EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
ASPHALT PAVERS 3	2.25	359.900	3162.400	12.20	377.0	10.58	1.37
ASPHALT PAVERS 4	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	-5.29	414.500	3109.000	17.07	333.0	8.26	2.34
BORDEN DRYER	-6.48	394.800	3069.600	30.48	344.0	14.79	1.82
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	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 SAP 1	-60.90	408.500	3082.500	30.49	350.0	12.20	1.37
CF BARTOW SAP 2	-110.25	408.500	3082.500	30.49	350.0	10.37	1.68
CF BARTOW SAP 3	-107.10	408.500	3082.500	30.49	364.0	4.27	2.74
CF BARTOW SAP 4	-174.83	408.500	3082.500	30.49	358.0	7.93	2.13
CF BARTOW SAP 5	50.40	408.500	3082.500	63.41	361.0	10.88	2.13
CF BARTOW SAP 5	-226.80	408.500	3082.500	63.41	358.0	10.67	2.13
CF BARTOW SAP 6	50.40	408.500	3082.500	63.41	370.0	7.28	2.13
CF BARTOW SAP 6	-170.10	408.500	3082.500	63.41	359.0	10.37	2.13
CF BARTOW SAP 7	42.00	408.500	3082.500	67.10	351.0	9.80	2.40
CF PLANT CITY BASELINE A & B SAP	-105.00	388.000	3116.000	23.80	316.0	18.80	1.52
CF PLANT CITY BASELINE C & D SAP	-100.80	388.000	3116.000	60.35	353.0	16.40	2.44
CF PLANT CITY SAP A&B	88.20	388.000	3116.000	33.50	316.0	19.50	1.52
CF PLANT CITY PROPOSED C & D SAP	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	-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	-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 SAP	-83.98	410.330	3079.655	30.48	311.0	20.18	1.37
FARMLAND 2 & 3 SAP	-68.04	410.330	3079.655	30.48	355.0	9.27	2.29
FARMLAND 2 & 3 SAP	88.20	410.330	3079.655	30.48	355.0	12.02	2.29
FARMLAND 5 SAP	-50.40	410.330	3079.655	45.72	355.0	11.55	2.44
FARMLAND 5 SAP	58.80	410.330	3079.655	45.72	355.0	13.42	2.44
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 TURBINES	466.40	467.500	3197.200	15.24	819.8	56.21	4.21

TABLE 5-7
SO_2 Class I Area PSD Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Continued)

SO2 SOURCE INVENTORY FOR FARMLAND HYDRO PLANT		PSD - CLASS I					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km) EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
FPC INT. CITY TURBINES/7EA	124.40	446.300	3126.000	15.24	819.8	56.21	4.21
FPC INT. CITY TURBINES/7EA	110.40	446.300	3126.000	15.24	880.8	32.07	7.04
FPC POLK	49.44	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 SAP 2-UNITS	-54.60	398.400	3084.200	30.50	308.0	18.90	1.80
IMC - AGRICO /NICHOLS/CONSERVE SAP	-42.00	398.400	3084.200	45.70	352.0	10.30	2.30
IMC - AGRICO /NICHOLS/CONSERVE SAP	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	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	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 SAP	113.40	407.500	3071.300	45.73	350.0	39.06	1.60
IMC-AGRICO/SO. PIERCE SAP	-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 UTILITIES	32.10	460.100	3129.300	18.30	422.0	38.00	3.66
LAKE CO. COGEN. FACILITY	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	0.60	394.800	3069.770	8.20	505.0	7.57	0.41
MOBIL BIG-4 DRYER	1.90	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	-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	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER SAP	-152.71	406.700	3085.200	51.00	356.0	9.90	2.13
MULBERRY PROSPHATES/ROYSTER SAP	35.70	406.700	3085.200	61.00	360.0	12.20	2.13
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
ORLANDO UTIL STANTON 1	601.00	483.500	3150.600	167.60	325.7	21.60	5.80
ORLANDO UTIL STANTON 2 (24-HR)	91.80	483.500	3150.600	167.60	324.2	23.50	5.80
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. COGENERATION	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

TABLE 5-7
SO_2 Class I Area PSD Inventory
Farmland Hydro, L.P. - Bartow
Polk County, Florida
(Concluded)

SO2 SOURCE INVENTORY FOR FARMLAND HYDRO PLANT		PSD - CLASS I					
SOURCE DESCRIPTION	Emissions (g/s)	UTM COORDINATES (km) EAST	NORTH	Height (m)	Temp. (K)	Velocity (m/s)	Diameter (m)
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
SECI HARDEE	6.40	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
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
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	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	-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 SAP	-78.80	416.210	3068.740	29.00	314.0	6.77	3.02
USSAC FT MEADE SAP	92.48	416.120	3068.620	53.40	355.0	10.00	2.59

TABLE 5-8
SUMMARY OF CLASS I AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

METEOROLOGICAL DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	37.60 (3)	7.78 (3)
1988	0	33.82 (3)	6.56 (3)
1989	0	31.16 (3)	5.05 (3)
1990	0	37.87 (3)	6.40 (3)
1991	0	39.74 (3)	7.27 (3)
ALLOWABLE PSD INCREMENT (FAC RULE 17-275)	2	25	5

NOTES:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) Farmland's maximum contribution to these impacts, of 0.017 $\mu g/m^3$ for the 3-hour period, and 0.056 $\mu g/m^3$ for the 24-hour period, are less than the significant levels used by the National Park Service as guidelines for permitting (see analysis in Appendix).

6.0 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 Farmland sulfuric acid plant stacks are all less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

7.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

7.1 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 sulfur dioxide 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 Farmland 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 which determine the terrestrial communities of the region.

The land in the vicinity of the Farmland 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.

7.2 GROWTH RELATED IMPACTS

The proposed modification will require no increase in personnel to operate the facility. Also, the increase in fertilizer production may cause a slight increase in delivery truck tanker traffic but will have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project.

7.3 VISIBILITY IMPACTS

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

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. The emissions of acid mist and nitrogen oxides were input to the model. In the case of sulfur dioxide however, EPA has noted in discussions on visibility models that the sulfates formation resulting from sulfur dioxide emissions becomes a factor beyond 200 kilometers and so the sulfur dioxide emissions were not included in the analysis. The VISCREEN - Level 1 modeling results,

presented in Table 7-1, indicate that there will be no adverse visibility impacts from the proposed project.

7.4 IMPACTS ON AIR QUALITY RELATED VALUES FOR CLASS I AREA

In the previous section, the impact of the air emission increases on air quality related values in the vicinity of the proposed project was addressed. The analysis addressed in this section extends the review of the impact of increased emissions on air quality related values to the Chassahowitzka Class I PSD area; an area in excess of 100 kilometers northwest of the Farmland plant.

7.4.1 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 interdispersed with long periods of no exposure or extremely low concentrations. This is the pattern of exposure that would be expected from sulfur dioxide and acid mist emissions from the proposed project at Chassahowitzka.

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 sulfur dioxide 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.

Sulfur dioxide 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 sulfur dioxide. 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 sulfur dioxide 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 7-2 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 sulfur dioxide (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak and mangrove exposed to 1300 micrograms per cubic meter of sulfur dioxide for 8-hours were not visibly damaged. This is consistent with the results reported in Table 7-2. 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 sulfur dioxide concentration of 920 micrograms per cubic meter for a 3-hour period.

Acute injury results from a plants inability to quickly convert absorbed sulfur dioxide 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 sulfur dioxide 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 sulfur dioxide 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. Although the predicted maximum impacts exceed the Class I PSD increments, the sulfur dioxide impacts from the proposed project are expected to be well below the ambient air quality standards (see Table 5-8).

The maximum expected concentrations of acid mist in the Chassahowitzka area resulting from the increased emissions from Farmland will be 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 Farmland 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 Farmland are well below concentrations which have been reported to produce vegetation damage.

7.4.2 Impact on Soils

The major soil classification in the Chassahowitzka area is Weeki Wachee-Durbin muck. This is an euic, hyderthermic typic sufihemist 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 sulfur dioxide and sulfate concentrations in the Chassahowitzka area resulting from the increased emissions from the Farmland plant, it is not expected that there will be any adverse impact on the native soils. A recent study (1994), coordinated by the National Park Service, supports this position.

7.4.3 Impacts on Wildlife

As the predicted sulfur dioxide levels are below those known to affect vegetation, the proposed project is not expected to have any impact on the wildlife in the Chassahowitzka area.

7.4.4. Visibility Impairment Analysis

Visibility impairment analysis was performed to determine potential impact of the proposed project in the Chassahowitzka area. The VISCREEN - Level 1 modeling results, presented in Table 7-1, indicate that no adverse visibility impacts are expected as a result of the proposed project.

TABLE 7-1

VISUAL EFFECTS SCREENING ANALYSIS

UMMARY OF ALL EMISSIONS AND METEOROLOGICAL INPUT

missions for FARMLAND in G /S :

Particulate	=	5.510000
NOx	=	4.410000
Primary NO2	=	0.000000E+00
Soot	=	0.000000E+00
Primary SO4	=	0.000000E+00

teorological and Ambient Data for CHASS

Wind speed (m/s)	=	1.000000
Stability Index	=	6
Visual Range (km)	=	25.000000
Ozone Conc. (ppm)	=	4.000000E-02
Plume Offset Angle	=	11.250000 degrees

stances Between FARMLAND and CHASS

Source-Observer	=	105.000000 km
Min. Source-Class I	=	100.000000 km
Max. Source-Class I	=	110.000000 km

ERALL RESULTS OF PLUME VISIBILITY SCREENING

URCE: FARMLAND
ASS I AREA: CHASS

NSIDE class I area --
ume delta E DOES NOT EXCEED screening criterion for SKY background
ume delta E DOES NOT EXCEED screening criterion for TERRAIN background
ume contrast DOES NOT EXCEED screening criterion for SKY background
ume contrast DOES NOT EXCEED screening criterion for TERRAIN background

TSIDE class I area --
me delta E DOES NOT EXCEED screening criterion for SKY background
me delta E DOES NOT EXCEED screening criterion for TERRAIN background
me contrast DOES NOT EXCEED screening criterion for SKY background
me contrast DOES NOT EXCEED screening criterion for TERRAIN background

REENING CRITERIA: DELTA E = 2.0
GREEN CONTRAST = .050

TABLE 7-2

SENSITIVITY OF VEGETATION TO SULFUR DIOXIDE

CONCENTRATION - TIME EXPOSURES TO
SULFUR DIOXIDE RESULTING IN DAMAGE TO
SEVERAL SPECIES COMMON TO FLORIDA

Sensitive Plants

Poplar	Radish	Cabbage
Lombardy Popular	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 Popular	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 7-2 (CONTINUED)

Exposure Time, Hours	Concentration Needed to Produce Injury ($\mu g/m^3$)		
	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

8.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in production rates of Farmland's sulfuric acid plants, and the increase in the molten sulfur system throughput, as described in this report, will not cause or significantly contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 17, FAC.

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APPENDIX

EMISSION RATE CALCULATIONS

1.0 PERMITTED EMISSION RATES

1.1 No. 3 SULFURIC ACID PLANT

SO_2 = 270 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1183 TPY

ACID MIST (SAM) = 10.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 44.3 TPY

1.2 No. 4 SULFURIC ACID PLANT

SO_2 = 270 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1183 TPY

SAM = 10.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 44.3 TPY

1.3 No. 5 SULFURIC ACID PLANT

SO_2 = 400 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1752 TPY

SAM = 15 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 65.7 TPY

NOx = 11.9 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 52.2 TPY

1.4 MOLTEN SULFUR SYSTEM

PM/PM10 = 7.71 TPY

SO2 = 14.22 TPY

H2S = 9.45 TPY

VOC = 14.02 TPY

2.0 ACTUAL EMISSION RATE CALCULATIONS

2.1 No. 3 SULFURIC ACID PLANT

Operating hours for the past five years:

YEAR	PLANT OPERATING HOURS
1990	8337
1991	8488*
1992	8362*
1993	8276
1994	Not compiled
Average	8425*

* Representative years

SO_2 = (236.3 + 77.7)/2 lbs/hr
x 8425 hrs/yr x ton/2000 lbs
= 661.4 TPY

SAM = (6.9 + 3.8)/2 lbs/hr
x 8425 hrs/yr x ton/2000 lbs
= 22.5 TPY

NOx emissions based on the nominal permitted production rate and a NOx emission factor used previously by FDEP of 0.12 lb/ton:

NOx = 67.5 tons/hr x 0.12 lb/ton
= 8.1 lbs/hr
x 8425 hrs/yr x ton/2000 lbs
= 34.1 TPY

2.2 No. 4 SULFURIC ACID PLANT

Operating hours for the past five years:

YEAR	PLANT OPERATING HOURS
1990	7977
1991	8349
1992	8398*
1993	8544*
1994	Not compiled
Average	8471*

* Representative years

SO_2 = (140.2 + 188.3)/2 lbs/hr
x 8471 hrs/yr x ton/2000 lbs
= 695.7 TPY

SAM = (2.9 + 6.3)/2 lbs/hr
x 8471 hrs/yr x ton/2000 lbs
= 19.5 TPY

NOx emissions based on the nominal permitted production rate and a NOx emission factor used previously by FDEP of 0.12 lb/ton:

NOx = 67.5 tons/hr x 0.12 lb/ton
= 8.1 lbs/hr
x 8471 hrs/yr x ton/2000 lbs
= 34.3 TPY

2.3 No. 5 SULFURIC ACID PLANT

Operating hours for the past five years:

YEAR	PLANT OPERATING HOURS
1990	1386
1991	8476
1992	8020
1993	8699*
1994	8270*
Average	8485*

* Representative years

SO_2 = (212.6 + 166.2)/2 lbs/hr
x 8485 hrs/yr x ton/2000 lbs
= 803.5 TPY

SAM = (6.9 + 9.3)/2 lbs/hr
x 8485 hrs/yr x ton/2000 lbs
= 34.4 TPY

NOx emissions based on the production rate and a NOx emission factor used previously by FDEP of 0.12 lb/ton (a factor representative of No. 5 sulfuric acid plant operation:

NOx = 90.7 tons/hr x 0.12 lb/ton
= 10.9 lbs/hr
x 8485 hrs/yr x ton/2000 lbs
= 46.2 TPY

2.4 MOLTEN SULFUR SYSTEM

(Same as permitted emissions)

PM/PM10 = 7.71 TPY

SO2 = 14.22 TPY

H2S = 9.45 TPY

VOC = 14.02 TPY

3.0 PROPOSED EMISSION RATE CALCULATIONS:

3.1 No. 3 SULFURIC ACID PLANT

SO_2 = 2100 tons/day x day/24 hrs x 4.0 lbs/ton
= 350 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1533 TPY

SAM = 2100 tons/day x day/24 hrs x 0.15 lb/ton
= 13.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 57.5 TPY

NOx = 2100 tons/day x day/24 hrs x 0.12 lb/ton
= 10.5 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 46.0 TPY

3.2 No. 4 SULFURIC ACID PLANT

SO_2 = 2100 tons/day x day/24 hrs x 4.0 lbs/ton
= 350 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 1533 TPY

SAM = 2100 tons/day x day/24 hrs x 0.15 lb/ton
= 13.1 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 57.5 TPY

NOx = 2100 tons/day x day/24 hrs x 0.12 lb/ton
= 10.5 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 46.0 TPY

3.3 No. 5 SULFURIC ACID PLANT

SO_2 = 2800 tons/day x day/24 hrs x 4.0 lbs/ton
= 466.7 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 2044 TPY

SAM = 2800 tons/day x day/24 hrs x 0.15 lb/ton
= 17.5 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 76.7 TPY

NOx = 2800 tons/day x day/24 hrs x 0.12 lb/ton
= 14.0 lbs/hr
x 8760 hrs/yr x ton/2000 lbs
= 61.3 TPY

3.2 MOLTEN SULFUR SYSTEM

Based on the increase in TPY sulfur throughput = (850,000/670,000) = 1.26

PM/PM10 = 7.71 TPY x 1.26 = 9.7 TPY

SO2 = 14.22 TPY x 1.26 = 17.9 TPY

H2S = 9.45 TPY x 1.26 = 11.9 TPY

VOC = 14.02 TPY x 1.26 = 17.7 TPY

4.0 NET ANNUAL EMISSION CHANGES

Net Emission Change = Proposed Emissions - Actual Emissions

POLLUTANT	ESTIMATED EMISSIONS (TPY)					
	No.3	No.4	No.5	S.S.	TOTAL	NET
SO2 (1)	661.4	695.7	803.5	14.22	2174.8	
(2)	1533.0	1533.0	2044.0	17.9	5127.9	2953.1
SAM (1)	22.5	19.5	34.4	-	76.4	
(2)	57.5	57.5	76.7	-	191.7	115.3
NOx (1)	34.1	34.3	46.2	-	114.6	
(2)	46.0	46.0	61.3	-	153.3	38.7
PM (1)	-	-	-	7.71	7.7	
(2)	-	-	-	9.7	9.7	2.0
H2S (1)	-	-	-	9.45	9.5	
(2)	-	-	-	11.9	11.9	2.4
VOC (1)	-	-	-	14.02	14.0	
(2)	-	-	-	17.7	17.7	3.7

NOTE: (1) Represents estimated actual emissions and (2) represents proposed emissions.

MODELING OUTPUT ON DISK

SUMMARY OF CLASS I AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

METEOROLOGICAL DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	37.60 (3)	7.78 (3)
1988	0	33.82 (3)	6.56 (3)
1989	0	31.16 (3)	5.05 (3)
1990	0	37.87 (3)	6.40 (3)
1991	0	39.74 (3)	7.27 (3)
ALLOWABLE PSD INCREMENT (FAC RULE 17-275)	2	25	5

NOTES:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) Farmland's maximum contribution to these impacts, of 0.017 $\mu g/m^3$ for the 3-hour period, and 0.056 $\mu g/m^3$ for the 24-hour period, are less than the significant levels used by the National Park Service as guidelines for permitting (see analysis in Appendix).

SUMMARY OF CLASS II AREA SULFUR DIOXIDE IMPACTS ANALYSIS

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

MET. DATA	SULFUR DIOXIDE IMPACT ($\mu g/m^3$)					
	PSD			AAQS		
	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)	ANNUAL(1)	3-HOUR(2)	24-HOUR(2)
1987	0	490.09	81.27	39.00	533.22	163.26
1988	0	466.37	86.24	34.79	561.91	151.02
1989	0	483.20	59.96	40.61	569.54	205.60
1990	0	415.31	115.91 (3)	39.52	535.01	180.33
1991	0	407.28	81.10	38.55	561.39	154.93
INCREMENT & STD.	20	512	91	60	1300	260
(Rule 62-212 & 275, FAC)						

NOTE:

(1) The impact represents the highest-high impact.

(2) The impact represents the highest second-high impact.

(3) Farmland's maximum contribution, of 0.022 $\mu g/m^3$, is less than significant (see analysis in Appendix).

SUMMARY OF FARMLAND CONTRIBUTION
TO SULFUR DIOXIDE CLASS I AND II AREA IMPACTS
(SEE DETAILED ANALYSIS ON DISK)

MET. YEAR	MAXIMUM PREDICTED IMPACTS ($\mu g/m^3$) MAX. FARMLAND CONTRIBUTION (1)	ALL SOURCES (2)	
Class I Area 3-hour			Class I Receptor
1987	0.0099	27.25	9
1988	0.0005	25.85	10
1989	0.0168	25.82	9
1990	0.0002	33.19	9
1991	0.0018	25.79	5
MAX	**0.0168**		
Class I Area 24-hour			Class I Receptor
1987	0.0098	5.08	5
1988	0.0557	5.07	7
1989	0.0002	5.21	7
1990	0.0273	5.47	4
1991	0.0112	5.38	5
MAX	**0.0557**		
Class II Area 24-hour			
1990	0.0223	92.65	
MAX	**0.0223**		

NOTE:

(1) This sulfur dioxide impact represents the maximum Farmland contribution to a predicted impact over the Class I and Class II PSD increment at a given receptor at a given period.

(2) This sulfur dioxide impact represents the predicted impact from all significant facilities when the Farmland contribution, indicated in (1), occurs.

POLK COUNTY - AP FARMLAND HYDRO, L.P. PERMIT AMENDMENT REQUEST MODELING IS CONTAINED ON THESE 6- 3½" DISKETTES. MODELING FOR:

PSD CLASS 1
PSD CLASS 2
FAAQS,

ARE ON THESE DISKS IN SELF EXTRACTING ARCHIVED FORMAT. TO UNARCHIVE THESE FILES COPY THE FILES OF INTEREST TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE ISCST2 OUTPUT FILES, FOR FAAQS MODELING COPY THE FRM-FAQS.EXE FILE FROM DISK 6 TO A HARD DISK DRIVE AND TYPE "FRM-FAQS.EXE" AND PRESS ENTER. THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE.

THE CONTENTS OF THE 6 DISKS ARE DESCRIBED AS FOLLOWS;

DISK 1 CONTAINS THE FILES;

3-HR87	EXE	595,981	01-28-95	(3-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEAR 1987)
3-HR88	EXE	623,203	01-28-95	(3-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEAR 1988)

DISK 2 CONTAINS THE FILES;

3-HR89	EXE	637,929	01-28-95	(3-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEAR 1989)
3-HR90	EXE	617,546	01-28-95	(3-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEAR 1990)

DISK 3 CONTAINS THE FILES;

3-HR91	EXE	606,536	01-28-95	(3-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEAR 1991)
3HR-DONE	EXE	635,390	01-28-95	(3-HR CLASS 1 PSD POSTFILE PLOT FILES IN A POST PROCESSED ASCII FORMAT FOR THE YEARS 1987 TO 1991)

DISK 4 CONTAINS THE FILES;

C1FRMPRN	EXE	696,725	02-07-95	(3-HR CLASS 1 PSD POSTFILE PLOT FILES IN A PREPROCESSED (RAW) ASCII FORMAT FOR THE YEARS 1987 TO 1991 FOR THE FARMLAND CONTRIBUTION ONLY)
24HR-WK1	EXE	493,111	01-28-95	(24-HR CLASS 1 PSD ANALYSIS IN LOTUS 123 FORMAT FOR THE YEARS 1987 TO 1991)

DISK 5 CONTAINS THE FILES;

C1PSDPRN	EXE	1,254,655	02-07-95	(3-HR CLASS 1 PSD POSTFILE PLOT FILES IN A PREPROCESSED (RAW) ASCII FORMAT FOR THE YEARS 1987 TO 1991 FOR THE CLASS 1 INVENTORY)
24HRDONE	EXE	128,155	01-28-95	(24-HR CLASS 1 PSD POSTFILE PLOT FILES IN A POST PROCESSED ASCII FORMAT FOR THE YEARS 1987 TO 1991)

DISK 6 CONTAINS THE FILES;

C1PSD24H EXE	313,875	02-07-95	(ALL 24-HR CLASS 1 PSD POSTFILE PLOT FILES IN A PREPROCESSED (RAW) ASCII FORMAT FOR THE YEARS 1987 TO 1991)
CLASS2 EXE	506,556	02-12-95	(CLASS 2 PSD ISCST2 OUTPUT FILES IN ASCII FORMAT)
FRM-FAQS EXE	384,471	02-12-95	(FAAQS ISCST2 OUTPUT FILES IN ASCII FORMAT)
CLAS1OUT EXE	102,864	01-26-95	(CLASS 1 PSD ISCST2 OUTPUT FILES IN ASCII FORMAT)

IN GENERAL ALL ISCST2 OUTPUT FILES ARE ON DISK 6, AND CLASS 1 PSD ANALYSIS FILES ARE ON ALL 6 DISKS. THE CONTENTS OF EACH FILE IS DESCRIBED AS FOLLOWS;

CLAS1OUT EXE CONTAINS THE FOLLOWING ISCST2 OUTPUT FILES IN ASCII FORMAT;

CL1PSD87 OUT	95,549	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1987
CL1PSD88 OUT	95,549	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1988
CL1PSD89 OUT	95,549	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1989
CL1PSD90 OUT	95,549	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1990
CL1PSD91 OUT	95,549	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1991
FRMCL187 OUT	53,488	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRMCL188 OUT	53,488	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRMCL189 OUT	53,488	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
FRMCL190 OUT	53,488	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRMCL191 OUT	53,488	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

C1FRMPRN EXE CONTAINS THE FOLLOWING ISCST2 PREPROCESSED (RAW) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 3-HOUR AVERAGING PERIOD;

FRM03-87 PRN	3,075,318	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1987
FRM03-88 PRN	3,083,742	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1988
FRM03-89 PRN	3,075,318	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1989
FRM03-90 PRN	3,075,318	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1990
FRM03-91 PRN	3,075,318	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1991

C1PSDPRN EXE CONTAINS THE FOLLOWING ISCST2 PREPROCESSED (RAW) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 3-HOUR AVERAGING PERIOD;

C1P03-87 PRN	3,075,318	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
C1P03-88 PRN	3,083,742	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
C1P03-89 PRN	3,075,318	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
C1P03-90 PRN	3,075,318	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
C1P03-91 PRN	3,075,318	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

3HR-DONE EXE CONTAINS THE FOLLOWING ISCST2 POST PROCESSED (SPREADSHEET READY) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 3-HOUR AVERAGING PERIOD;

C1P03-87 PRN	537,282	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1987
C1P03-88 PRN	538,754	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1988
C1P03-89 PRN	537,282	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1989
C1P03-90 PRN	537,282	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1990
C1P03-91 PRN	537,282	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1991
FRM03-87 PRN	537,282	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRM03-88 PRN	538,754	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRM03-89 PRN	537,282	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
FRM03-90 PRN	537,282	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRM03-91 PRN	537,282	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

3-HR87 EXE CONTAINS THE FILE;
3HRCLI87 WK1 3,685,190 01-28-95
THE 1987, CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 3-HOUR AVERAGING PERIOD

3-HR88 EXE CONTAINS THE FILE;
3HRCLI88 WK1 3,713,756 01-28-95
THE 1988, CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 3-HOUR AVERAGING PERIOD

3-HR89 EXE CONTAINS THE FILE;
3HRCLI89 WK1 3,714,668 01-28-95
THE 1989, CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 3-HOUR AVERAGING PERIOD

3-HR90 EXE CONTAINS THE FILE;
3HRCLI90 WK1 3,714,668 01-28-95
THE 1990, CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 3-HOUR AVERAGING PERIOD

3-HR91 EXE CONTAINS THE FILE;
3HRCLI90 WK1 3,714,668 01-28-95
THE 1991, CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 3-HOUR AVERAGING PERIOD

C1PSD24H EXE CONTAINS THE FOLLOWING ISCST2 PREPROCESSED (RAW) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 24-HOUR AVERAGING PERIOD;

C1P24-87 PRN	384,903	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1987
C1P24-88 PRN	385,956	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1988
C1P24-89 PRN	384,903	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1989
C1P24-90 PRN	384,903	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1990
C1P24-91 PRN	384,903	01-26-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1991
FRM24-87 PRN	384,903	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRM24-88 PRN	385,956	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRM24-89 PRN	384,903	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989

FRM24-90 PRN	384,903	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRM24-91 PRN	384,903	01-26-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

24HRDONE EXE CONTAINS THE FOLLOWING ISCST2 POST PROCESSED (SPREADSHEET READY) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 24-HOUR AVERAGING PERIOD:

C1P24-87 PRN	67,162	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1987
C1P24-88 PRN	67,346	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1988
C1P24-89 PRN	67,162	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1989
C1P24-90 PRN	67,162	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1990
C1P24-91 PRN	67,162	01-28-95	CLASS 1 PSD INVENTORY FOR THE YEAR 1991
FRM24-87 PRN	67,162	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRM24-88 PRN	67,347	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRM24-89 PRN	67,162	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
FRM24-90 PRN	67,162	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRM24-91 PRN	67,162	01-28-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

24HR-WK1 EXE CONTAINS THE CLASS 1 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 24-HOUR AVERAGING PERIOD:

24CLI-87 WK1	443,740	01-28-95	FOR THE YEAR 1987
24CLI-88 WK1	447,213	01-28-95	FOR THE YEAR 1988
24CLI-89 WK1	448,280	01-28-95	FOR THE YEAR 1989
24CLI-90 WK1	445,246	01-28-95	FOR THE YEAR 1990
24CLI-91 WK1	444,856	01-28-95	FOR THE YEAR 1991

CLASS2 EXE CONTAINS THE FOLLOWING PSD CLASS 2 ISCST2 OUTPUT FILES IN ASCII FORMAT:

CL2PSD87 OUT	256,692	01-24-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1987
CL2PSD88 OUT	256,692	01-24-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1988
CL2PSD89 OUT	256,692	01-24-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1989
CL2PSD90 OUT	256,692	01-24-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1990
CL2PSD91 OUT	256,692	01-24-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1991
FRMCL287 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRMCL288 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRMCL289 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
FRMCL290 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRMCL291 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991

C2-CMP90 WK1 343,652 02-09-95 1990, CLASS 2 ANALYSIS IN SPREADSHEET LOTUS 123 FORMAT FOR THE 24-HOUR AVERAGING PERIOD

AND THE FOLLOWING PREPROCESSED (RAW) POST FILE PLOT FILES IN ASCII FORMAT FOR THE 24-HOUR AVERAGING PERIOD:

C2S24-90 PRN	71,177	02-09-95	CLASS 2 PSD INVENTORY FOR THE YEAR 1990
FMS24-90 PRN	71,905	02-09-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990

FRM-FAQS EXE CONTAINS THE FOLLOWING ISCST2 OUTPUT FILES FOR THE FAAQS MODELING IN ASCII FORMAT;

CL2NQS87 OUT	262,285	01-23-95	FAAQS INVENTORY FOR THE YEAR 1987
CL2NQS88 OUT	262,285	01-23-95	FAAQS INVENTORY FOR THE YEAR 1988
CL2NQS89 OUT	262,285	01-23-95	FAAQS INVENTORY FOR THE YEAR 1989
CL2NQS90 OUT	262,285	01-23-95	FAAQS INVENTORY FOR THE YEAR 1990
CL2NQS91 OUT	262,285	01-23-95	FAAQS INVENTORY FOR THE YEAR 1991
FRMCL287 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1987
FRMCL288 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1988
FRMCL289 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1989
FRMCL290 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1990
FRMCL291 OUT	221,404	01-23-95	FARMLANDS CONTRIBUTION FOR THE YEAR 1991
FARM14KM OUT	31,368	01-30-95	FARMLANDS CONTRIBUTION AT 14 KM

IF THERE ARE ANY QUESTIONS OR IF ADDITIONAL FILES ARE REQUIRED PLEASE CALL ME.

MARK KOLETZKE
KOOGLER AND ASSOCIATES
(904) 377-5822

CURRENT AIR PERMITS

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Lawton Chiles, Governor 813-620-6100 Carol M. Browner, Secretary

PERMITTEE:
Farmland Hydro, L.P.
P.O. Box 960
Bartow, Florida 33830

PERMIT/CERTIFICATION:
Permit No: AO53-218118
County: Polk
Expiration Date: 09/14/97
Project: Molten Sulfur Storage and Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. 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:

For the operation of a molten sulfur storage and handling system for the unloading, transfer and storage of molten sulfur delivered to the plant by railcars and trucks. The system is permitted for a maximum throughput (receiving/unloading rate) of 2,020 tons per day and 670,000 tons per year. The system consists of the following sources and maximum transfer (loading/unloading) rates:

Description/Capacity	Max. Transfer Rate	Point ID
91 ton railcar unloading pit	578 TPH	34
72 ton truck unloading pit	167 TPH	33
6,000 ton storage tank	448 TPH	30
2,500 ton storage tank (east)	297 TPH	31
2,500 ton storage tank (west)	297 TPH	32
Molten sulfur supply pit No. 3 & 4	48.1 TPH	36

Also included are the associated transfer pumps and piping.

Location: Green Bay Complex, State Road 640 West, Bartow

UTM: 17-409.5 E 3079.5 N **NEDS No:** 0053 **Point ID No:**

Replaces Permit No.: AC53-190667

PERMITTEE
Farmland Hydro L.P.
P.O. Box 960
Bartow, FL 33830

PERMIT/PROJECT
Permit No.: AO53-218118
County: Polk
Project: Molten Sulfur Storage and Handling System

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions.

2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state or local law.
[Rule 17-2.210, F.A.C.].

3. Visible emissions from any emission point in the molten sulfur handling and storage system shall not exceed 20% opacity (six minute average).
[Rule 17-2.600(11)(a)7., F.A.C.]

4. The sources included on this permit are allowed to operate continuously (8760 hrs/yr).
[Construction Permit No. AC53-190667].

5. The maximum molten sulfur throughput (i.e. unloaded from railcars and trucks) rate shall neither exceed 2,020 tons per day, nor 670,000 tons per year. The maximum unloading/loading/transfer rates shall not exceed those shown on Page 1 of this permit. No more than four (4) railcars may be unloaded simultaneously at the railcar pit (at a maximum rate of 578 tons per hour), and no more than two (2) trucks may be unloaded simultaneously at the truck pit (at a maximum rate of 167 tons per hour).
[Construction Permit No. AC53-190667].

6. The permittee shall not cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 17-2.620(2), F.A.C.].

7. The molten sulfur handling and storage system shall be tested for visible emissions within 120 days prior to applying for a renewed operating permit. A copy of the test report shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of the testing, or with the operating permit renewal application, whichever is earlier.
[Rules 17-2.700(2) and 17-2.700(7), F.A.C.].

8. Compliance with the visible emission limitation of Specific Condition No. 3 shall be determined using DER Method 9 and shall be conducted by a certified observer. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Section 17-2.700, F.A.C. and 40 CFR 60, Appendix A.
[Rule 17-2.700, F.A.C.].

Specific Conditions:

9. The visible emissions tests shall be conducted during simultaneous unloading of four railcars and two trucks and with transfer rates at 90-100% of those shown on Page 1 of this permit. Visible emissions tests shall be conducted at the two sulfur receiving pits, at each vent of the three sulfur storage tanks and at the vent for the No. 3 & 4 supply pit. Visible emissions shall be conducted during the entire time it takes to completely unload the trucks and railcars. The unloading/transfer rates and a description of the unloading operations during the test shall be included with the test results. Failure to submit the actual operating conditions may invalidate the test and fail to provide reasonable assurance of compliance.
[Construction Permit No. AC53-190667 and Rules 17-4.070(3), and 17-2.700(1)(b)(i), F.A.C.].

10. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted.
[Rule 17-2.700(2)(a)9., F.A.C.].

11. The permittee shall implement the necessary recordkeeping, maintenance, and operational procedures to minimize emissions from the molten sulfur system pursuant to the applicable requirements of Rule 17-2.600(11)(a), F.A.C., "Molten Sulfur Storage and Handling Facilities".

12. In order to document compliance with the requirements of Specific Condition No. 5, the permittee shall maintain the following records and make them available to the Department upon request:

A. Daily molten sulfur receiving rate (tons/day);
b. Monthly total sulfur receiving rate (tons/month) and cumulative total for the most recent 12 consecutive month period (tons/yr);
C. Sulfuric acid plants daily molten sulfur utilization rate (tons/day);
D. Sulfuric acid plants monthly total molten sulfur utilization rate (tons/month) and cumulative total for the most recent 12 consecutive month period (tons/yr).

[Rule 17-4.070(3), F.A.C.].

PERMITTEE
Farmland Hydro L.P.
P.O. Box 960
Bartow, FL 33830

PERMIT/PROJECT
Permit No.: AO53-218118
County: Polk
Project: Molten Sulfur Storage and Handling System

Specific Conditions:

13. For emission inventory and PSD purposes, the estimated maximum emissions from the sources in the molten sulfur storage and handling system are:

Pollutant	Total Emissions
Particulate Matter	7.71 TPY
TRS (measured as H2S)	9.45 TPY
Sulfur dioxide	14.22 TPY
Volatile organic compounds	14.02 TPY

[Construction Permit No. AC53-190667].

14. Submit to the Southwest District Office of the Department each calendar year on or before March 1, an emission report for this source for the preceding calendar year containing the following information pursuant to Subsection 403.061(13), F.S.:

A. Annual amount of materials and/or fuels utilized;
B. Annual emissions of PM, TRS, SO2 and VOC (include calculation sheet and note basis for calculations);
C. Any changes in the information contained in the permit application.

15. Any change in the method of operation or equipment which will cause an increase in the actual emissions may be considered a modification and must be reported to the SW District Office of the Department for proper processing prior to implementing the change.

16. Two applications to renew this operating permit shall be submitted to the Southwest District Office of the Department no later than July 16, 1997 (60 days prior to the expiration date of this permit). [Rule 17-4.090(1), F.A.C.].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

For Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

Florida Department of Environmental Regulation

Southwest District • 3804 Coconut Palm • Tampa, Florida 33619

Lawton Chiles, Governor 813-744-6100 Carol M. Browner, Secretary

ITTEE:

land Hydro, L.P.
Office Box 960
ow, FL 33830

PERMIT/CERTIFICATION:

Permit No.: A053-217563
County: Polk
Expiration Date: 11-19-97
Project: Sulfuric Acid Plant No. 3

permit is issued under the provisions of Chapter 403, Florida utes, and Florida Administrative Code Rules 17-2 & 17-4. The e named Permittee is hereby authorized to perform the work or ate the facility shown on the application and approved drawing(s), s, and other documents, attached hereto or on file with the rtment and made a part hereof and specifically described as ows:

the operation of a double absorption sulfuric acid plant designated o. 3. Emissions from this plant are controlled by venting the s through demisting equipment at an average flow rate of 91,557

ion: County Road 640 West, (Green Bay Plant), near Bartow, Polk ty

17-409.5 E 3079.5 N NEDS NO: 0053 - Point ID: 03

ces Permit No.: A053-138909

PERMITTEE:
Farmland Hydro, L.P.

Permit No.: A053-217563
Project: Sulfuric Acid Plant No. 3

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. A part of this permit is the attached Memorandum of Understanding Regarding Best Operational Start-Up Practices for Sulfuric Acid Plants.

3. This source shall comply with all the requirements of 40 CFR 60, Subpart H - Standards of Performance for Sulfuric Acid Plants (Rule 17-2.660, F.A.C.).

4. The maximum sulfuric acid production rate of this plant, measured as 100% H_2SO_4, is 67.5 tons/hour.

5. Visible emissions shall not be equal to or greater than 10% opacity (Rule 17-2.660, F.A.C., and 40 CFR 60.83(a)(2)).

6. Sulfur dioxide emissions shall not exceed any of the following limits:

A. 4.0 pounds per ton of 100% H_2SO_4 produced.
B. 270 pounds per hour.
C. 1,183 tons per year

(Rule 17-2.660, F.A.C., and 40 CFR 60.82(a)).

7. Acid mist emissions shall not exceed any of the following limits:

A. 0.15 pounds per ton of 100% H_2SO_4 produced.
B. 10.1 pounds per hour.
C. 44.3 tons per year.

(Rule 17-2.660, F.A.C., and 40 CFR 60.83(a)(1)).

8. Farmland Hydro, L.P., shall not cause, suffer, allow or permit the discharge or air pollutants which cause or contirbute to an objectionable odor (Rule 17-2.620(2), F.A.C.).

9. The hours of operation are not restricted.

10. Test the emissions for the following pollutant(s) at intervals of 12 months from the date of December 3, 1991 and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Regulation within 45 days of such testing (Rule 17-2.700(7), F.A.C.):

(X) Sulfur Dioxide (X) Acid Mist (X) Opacity

11. Testing of emissions to show compliance shall be conducted within 90-100% of the permitted rate of 67.5 ton/hour of 100% H_2SO_4 produced. A compliance test submitted at an operating rate less than 90% of the permitted rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance, at a higher rate, is submitted. Any time the permitted rate of the source is exceeded by more than 10%, a compliance test shall be performed within 30 days of initiation of the higher rate and the results of the tests shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing. Acceptance of said tests by the Department will constitute an amended permit at the higher rate, not to exceed 67.5 tons/hour of 100% H_2SO_4 produced. The emission limitations in Specific Conditions No. 5, 6 and 7 shall not change. Failure to submit the production rate and actual operating conditions in the test report may invalidate the test and fail to provide reasonable assurance of compliance (Rule 17-2.070(3), F.A.C.).

12. Compliance with the emission limitations of Specific Conditions No. 5, 6 and 7 shall be determined in accordance with 40 CFR 60.85 using EPA Methods 1, 2, 3, 8 & 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-2.700, F.A.C., and 40 CFR 60, Appendix A.

13. Farmland Hydro, L.P. shall notify the Air Section of the Southwest District Office of the Department of Environmental Regulation in writing at least 15 days prior to the date on which each compliance stack test is to begin of the date, time, and place of each test, and the test contact person who will be responsible for coordinating and having each test conducted (Rule 17-2.700(2)(a)9., F.A.C.).

14. The continuous monitoring system for the measurement of sulfur dioxide shall be calibrated, maintained and operated as specified in 40 CFR 60.84. The span value of the continuous monitor shall be set at 1000 PPM (Rule 17-2.660 and 17-2.710(1)(b), F.A.C.).

15. In accordance with 40 CFR 60.7(b), Farmland Hydro, L.P. shall maintain records of any periods during which the sulfur dioxide monitor system is inoperative. Records of the monitoring system performance evaluations, calibrations, and maintanance shall be maintained in accordance with 40 CFR 60.7(d). All of the above records shall be retained for at least the most recent two year period and be made available for inspection by the Department on request.

6. Farmland Hydro, L.P. shall submit a written report of excess sulfur dioxide emissions for every calendar quarter is accordance with 40 CFR 60.7 (b) and (c). Periods of excess emissions shall be all three-hour periods (or the arithmethic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standard under 40 CFR 60.82. The excess emission report shall also include a statement of all periods during the quarter when the sulfur dioxide monitoring system was inoperative. Duplicate copies of the quarterly sulfur dioxide excess emission report shall be submitted to the Bureau of Air Regulation in Tallahassee and to the Southwest District Office in Tampa (Rule 17-2.660, F.A.C. and 40 CFR 60.84(e)).

7. Farmland Hydro, L.P. shall maintain records of occurrences and duration of any startup, shutdown, or malfuction in the operation of the sulfuric acid plant; and any malfuction of the air pollution control equipment. The records shall be recorded in a permanent form suitable for inspection and shall be retained for at least the most recent two year period (Rule 17-2.660(3)(a), F.A.C. and 40 CFR 60.7).

8. Excess emission resulting from startup, shutdown or maufuction are permitted providing: (1) best operational practices to minimize emissions are adhered to and; (2) the duration of excess emissions are minimized (Rule 17-2.250(1), 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 malfuction shall be prohibited (Rule 17-2.250(4), F.A.C.). In case of excess emissions resulting from malfuctions, Farmland Hydro, L.P. shall notify the Department in accordance with Rule 17-4.130, F.A.C. A full written report on the malfuctions shall be submitted in a quaterly report, if requested by the Department (Rule 17-2.250(6), F.A.C.).

9. This permit acknowledges that leaks of sulfur dioxide and sulfur trioxide or other fugitive process emissions that do not pass through a stack may occur as a part of routine operations. Best operational practices to minimize these emissions shall be adhered to and shall include regular inspections and the prompt repair or correction of any leaks or other fugitive emissions.

10. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

21. Farmland Hydro, L.P. shall follow the attached Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants (Signed October 24, 1989).

22. Submit for this source, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Chapter 403.061(13), Florida Statutes:

(A) Annual amount of materials and/or fuels utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

23. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Rule 17-2, F.A.C., or other requirements under federal, state, or local law. Future regulations may impact this source at some future date. Farmland Hydro, L.P. shall comply with any applicable future regulation when they become effective (Rule 17-2.210, F.A.C.).

24. Four applications to renew this operating permit shall be submitted to the Air Section of the Southwest District Office of the Department of Environmental Regulation at least 60 days prior to its expiration date (Rule 17-4.090, F.A.C.).

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

for Bob Stella
Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

3804 Coconut Palm Drive
Tampa, FL 33619-8318
(813)744-6100

MEMORANDUM OF UNDERSTANDING
REGARDING BEST OPERATIONAL START-UP PRACTICES
FOR SULFURIC ACID PLANTS

Florida Department of Environmental Regulation

Southwest District • 3804 Coconut Palm • Tampa, Florida 33619

Lawton Chiles, Governor 813-744-6100 Carol M. Browner, Secretary

RMITTEE:

rmland Hydro, L.P.
st Office Box 960
rtow, FL 33830

PERMIT/CERTIFICATION:

Permit No.: A053-217564
County: Polk
Expiration Date: 11-19-97
Project: Sulfuric Acid
Plant No. 4

is permit is issued under the provisions of Chapter 403, Florida atutes, and Florida Administrative Code Rules 17-2 & 17-4. The ove named Permittee is hereby authorized to perform the work or erate the facility shown on the application and approved drawing(s), ans, and other documents, attached hereto or on file with the partment and made a part hereof and specifically described as llows:

)r the operation of a double absorption sulfuric acid plant designated ; No. 4. Emissions from this plant are controlled by venting the ises through demisting equipment at an average flow rate of 92,645 :FM.

)cation: County Road 640 West, (Green Bay Plant), near Bartow, Polk)unty

TM: 17-409.5 E 3079.5 N NEDS NO: 0053 Point ID: 04

eplaces Permit No.: A053-138910

PERMITTEE:
Farmland Hydro, L.P.

Permit No.: A053-217564
Project: Sulfuric Acid Plant No. 4

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. A part of this permit is the attached Memorandum of Understanding Regarding Best Operational Start-Up Practices for Sulfuric Acid Plants.

3. This source shall comply with all the requirements of 40 CFR 60, Subpart H - Standards of Performance for Sulfuric Acid Plants (Rule 17-2.660, F.A.C.).

4. The maximum sulfuric acid production rate of this plant, measured as 100% H_2SO_4, is 67.5 tons/hour.

5. Visible emissions shall not be equal to or greater than 10% opacity (Rule 17-2.660, F.A.C., and 40 CFR 60.83(a)(2)).

6. Sulfur dioxide emissions shall not exceed any of the following limits:

A. 4.0 pounds per ton of 100% H_2SO_4 produced.
B. 270 pounds per hour.
C. 1,183 tons per year

(Rule 17-2.660, F.A.C., and 40 CFR 60.82(a)).

7. Acid mist emissions shall not exceed any of the following limits:

A. 0.15 pounds per ton of 100% H_2SO_4 produced.
B. 10.1 pounds per hour.
C. 44.3 tons per year.

(Rule 17-2.660, F.A.C., and 40 CFR 60.83(a)(1)).

8. Farmland Hydro, L.P., shall not cause, suffer, allow or permit the discharge or air pollutants which cause or contirbute to an objectionable odor (Rule 17-2.620(2), F.A.C.).

9. The hours of operation are not restricted.

10. Test the emissions for the following pollutant(s) at intervals of 12 months from the date of April 2, 1992 and submit a copy of test data to the Air Section of the Southwest District Office of the Department of Environmental Regulation within 45 days of such testing (Rule 17-2.700(7), F.A.C.):

(X) Sulfur Dioxide (X) Acid Mist (X) Opacity

11. Testing of emissions to show compliance shall be conducted within 90-100% of the permitted rate of 67.5 ton/hour of 100% H_2SO_4 produced. A compliance test submitted at an operating rate less than 90% of the permitted rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance, at a higher rate, is submitted. Any time the permitted rate of the source is exceeded by more than 10%, a compliance test shall be performed within 30 days of initiation of the higher rate and the results of the tests shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing. Acceptance of said tests by the Department will constitute an amended permit at the higher rate, not to exceed 67.5 tons/hour of 100% H_2SO_4 produced. The emission limitations in Specific Conditions No. 5, 6 and 7 shall not change. Failure to submit the production rate and actual operating conditions in the test report may invalidate the test and fail to provide reasonable assurance of compliance (Rule 17-2.070(3), F.A.C.).

12. Compliance with the emission limitations of Specific Conditions No. 5, 6 and 7 shall be determined in accordance with 40 CFR 60.85 using EPA Methods 1, 2, 3, 8 & 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-2.700, F.A.C., and 40 CFR 60, Appendix A.

13. Farmland Hydro, L.P. shall notify the Air Section of the Southwest District Office of the Department of Environmental Regulation in writing at least 15 days prior to the date on which each compliance stack test is to begin of the date, time, and place of each test, and the test contact person who will be responsible for coordinating and having each test conducted (Rule 17-2.700(2)(a)9., F.A.C.).

14. The continuous monitoring system for the measurement of sulfur dioxide shall be calibrated, maintained and operated as specified in 40 CFR 60.84. The span value of the continuous monitor shall be set at 1000 PPM (Rule 17-2.660 and 17-2.710(1)(b), F.A.C.).

15. In accordance with 40 CFR 60.7(b), Farmland Hydro, L.P. shall maintain records of any periods during which the sulfur dioxide monitor system is inoperative. Records of the monitoring system performance evaluations, calibrations, and maintanance shall be maintained in accordance with 40 CFR 60.7(d). All of the above records shall be retained for at least the most recent two year period and be made available for inspection by the Department on request.

16. Farmland Hydro, L.P. shall submit a written report of excess sulfur dioxide emissions for every calendar quarter is accordance with 40 CFR 60.7 (b) and (c). Periods of excess emissions shall be all three-hour periods (or the arithmethic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standard under 40 CFR 60.82. The excess emission report shall also include a statement of all periods during the quarter when the sulfur dioxide monitoring system was inoperative. Duplicate copies of the quarterly sulfur dioxide excess emission report shall be submitted to the Bureau of Air Regulation in Tallahassee and to the Southwest District Office in Tampa (Rule 17-2.660, F.A.C. and 40 CFR 60.84(e)).

17. Farmland Hydro, L.P. shall maintain records of occurrences and duration of any startup, shutdown, or malfuction in the operation of the sulfuric acid plant; and any malfuction of the air pollution control equipment. The records shall be recorded in a permanent form suitable for inspection and shall be retained for at least the most recent two year period (Rule 17-2.660(3)(a), F.A.C. and 40 CFR 60.7).

18. Excess emission resulting from startup, shutdown or maufuction are permitted providing: (1) best operational practices to minimize emissions are adhered to and; (2) the duration of excess emissions are minimized (Rule 17-2.250(1), 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 malfuction shall be prohibited (Rule 17-2.250(4), F.A.C.). In case of excess emissions resulting from malfuctions, Farmland Hydro, L.P. shall notify the Department in accordance with Rule 17-4.130, F.A.C. A full written report on the malfuctions shall be submitted in a quaterly report, if requested by the Department (Rule 17-2.250(6), F.A.C.).

19. This permit acknowledges that leaks of sulfur dioxide and sulfur trioxide or other fugitive process emissions that do not pass through a stack may occur as a part of routine operations. Best operational practices to minimize these emissions shall be adhered to and shall include regular inspections and the prompt repair or correction of any leaks or other fugitive emissions.

20. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

21. Farmland Hydro, L.P. shall follow the attached Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants (Signed October 24, 1989).

22. Submit for this source, each calendar year, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Chapter 403.061(13), Florida Statutes:

(A) Annual amount of materials and/or fuels utilized.
(B) Annual emissions (note calculation basis).
(C) Any changes in the information contained in the permit application.

23. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Rule 17-2, F.A.C., or other requirements under federal, state, or local law. Future regulations may impact this source at some future date. Farmland Hydro, L.P. shall comply with any applicable future regulation when they become effective (Rule 17-2.210, F.A.C.).

24. Four applications to renew this operating permit shall be submitted to the Air Section of the Southwest District Office of the Department of Environmental Regulation at least 60 days prior to its expiration date (Rule 17-4.090, F.A.C.).

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

for Bob Stetla

Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

3804 Coconut Palm Drive
Tampa, FL 33619-8318
(813)744-6100

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Lawton Chiles, Governor 813-623-5561 Carol M. Browner, Secretary

PERMITTEE:
Farmland Industries, Inc.
P.O. Box 960
Bartow, Florida 33830-0960

PERMIT/CERTIFICATION
Permit No: AO53-200485
County: Polk
Expiration Date: 12/17/96
Project: Sulfuric Acid Plant #5

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. 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:

For the operation of sulfuric acid plant No. 5. This plant is a Monsanto Enviro-Chem double absorption sulfuric acid plant designed to produce 2,400 short tons per day of 100% H_2SO_4. Sulfur dioxide emissions are controlled by the absorbing towers which are part of the production process. Acid mist is controlled by Monsanto Enviro-Chem high efficiency mist eliminators.

Location: State Road 640, 6 miles southwest of Bartow, FL.

UTM: 17-409.5 E 3079.5 N NEDS NO: 0053 Point ID: 05

Replaces Permit No.: AC53-185490

PERMITTEE:	PERMIT/CERTIFICATION
Farmland Industries, Inc.	Permit No: AO53-200485
Bartow, Florida 33830-0960	County: Polk
	Expiration Date: 12/17/96
SPECIFIC CONDITIONS:	Project: Sulfuric Acid Plant #5

1. A part of this permit is the attached 15 General Conditions.

2. A part of this permit is the attached Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants.

3. This source shall comply with all of the requirements of 40 CFR 60.80, Subpart H - Standards of Performance for Sulfuric Acid Plants. [Rule 17-2.660, F.A.C.].

4. The maximum production rate of the No. 5 sulfuric acid plant shall not exceed 2,400 tons per day based on 100% H_2SO_4. [Permit AC53-185490].

5. Visible emissions shall not be equal to or greater than 10% opacity. [Rule 17-2.660, F.A.C. and 40 CFR 60.83(a)(2)].

6. Sulfur dioxide emissions shall not exceed any of the following limits.

A. 4 pounds per ton of 100% acid produced.
B. 400. pounds per hour.
C. 1,752. tons per year.

[Rule 17-2.660, F.A.C., 40 CFR 60.82(a), and AC53-185490].

7. Acid mist emissions shall not exceed any of the following limits.

A. 0.15 pounds per ton of 100% acid produced.
B. 15.0 pounds per hour.
C. 65.7 tons per year.

[Rule 17-2.660, F.A.C., 40 CFR 60.83(a)(1), and AC53-185490].

8. Nitrogen oxides emissions shall not exceed any of the following limits.

A. 0.12 pounds per ton of 100% acid produced.
B. 11.9 pounds per hour.
C. 52.2 tons per year.

[Permit AC53-185490].

SPECIFIC CONDITIONS:

9. Farmland Industries, Inc. shall not cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 17-2.620(2), F.A.C.].

10. The hours of operation are not restricted.

11. Test the emissions for the following pollutant(s) at intervals of 12 months ± 1 month from the date June 26, 1991 and submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing.

A. Opacity
B. Sulfur Dioxide
C. Acid Mist
D. Nitrogen Oxides

[Rules 17-2.700(2) and 17-2.700(7), F.A.C., and Permit AC53-185490].

12. Testing of emissions to show compliance shall be conducted within 10% of the permitted rate. A compliance test submitted at an operating rate less than 90% of the permitted rate will automatically constitute an amended permit at the lesser rate until another test, showing compliance at a higher rate, is submitted. Any time the permitted rate of the source is exceeded by more than 10%, a compliance test shall be performed within 30 days of initiation of the higher rate and the test results shall be submitted to the Department within 45 days of testing. Acceptance of the test by the Department will constitute an amended permit at the higher rate, not to exceed the maximum production rate of 2,400 tons per day. The emission limitations in Specific Condition Nos. 6, 7, and 8 shall not change. Failure to submit the production rate or actual operating conditions in the test report may invalidate the test and fail to provide reasonable assurance of compliance. [Rule 17-4.070(3), F.A.C.].

13. Compliance with the emission limitations of Specific Condition Nos. 5, 6, and 7 shall be determined in accordance with 40 CFR 60.85 using EPA Methods 1, 2, 3, 8 and 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-2.700, F.A.C. Compliance with the emission limitations of Specific Condition No. 8 shall be determined using EPA Method 7E contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 17-2.700, F.A.C. and 40 CFR 60, Appendix A.

14. Farmland Industries, Inc. shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-2.700(2)(a)9., F.A.C.].

15. A continuous emission monitoring system for the measurement of sulfur dioxide shall be calibrated, maintained and operated as specified in 40 CFR 60.84. The span value of the continuous monitor shall be set at 1000 ppm.
[Rules 17-2.660 and 17-2.710(1)(b), F.A.C.].

16. In accordance with 40 CFR 60.7(b), Farmland Industries, Inc. shall maintain records of any periods during which the sulfur dioxide monitor system is inoperative. Records on monitoring system performance evaluations, calibrations and maintenance shall be maintained in accordance with 40 CFR 60.7(d). All of the above records shall be retained for at least the most recent 2 year period and made available to the Department upon request.

17. Farmland Industries, Inc. shall submit a written report of excess sulfur dioxide emissions for every calendar quarter in accordance with 40 CFR 60.7 (b) and (c). Periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standard under 40 CFR 60.82. The excess emission report shall also include a statement of all periods during the quarter when the sulfur dioxide monitoring system was inoperative. Duplicate copies of the quarterly sulfur dioxide excess emission report shall be submitted to the Bureau of Air Regulation in Tallahassee and to the Southwest District Office in Tampa.
[Rule 17-2.660, F.A.C and 40 CFR 60.84(e)].

18. Farmland Industries, Inc. shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the sulfuric acid plant; or any malfunction of the air pollution control equipment. The records shall be recorded in a permanent form suitable for inspection and shall be retained for at least two years.
[Rule 17-2.660(3)(a), F.A.C. and 40 CFR 60.7].

19. Excess emissions resulting from startup, shutdown, or malfunction are permitted providing: (1) best operational practices to minimize emissions are adhered to and; (2) the duration of excess emissions are minimized. [Rule 17-2.250(1), 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 17-2.250(4), F.A.C.]. In case of excess emissions resulting from malfunctions, Farmland Industries, Inc. shall notify the Department in accordance with Rule 17-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 17-2.250(6), F.A.C.].

20. This permit acknowledges that leaks of sulfur dioxide and sulfur trioxide, or other fugitive process emissions that do not pass through a stack, may occur as part of routine operations. Best operational practices to minimize these emissions shall be adhered to and shall include regular inspections and the prompt repair or correction of any leaks or other fugitive emissions.

21. Farmland Industries, Inc. shall follow the attached Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants. [Signed on October 24, 1989 and re-affirmed in a letter dated August 26, 1991].

22. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

23. Submit to the Department, each calendar year, on or before March 1, an emission report for this source for the preceding calendar year containing the following information pursuant to Subsection 403.061(13), F.S.:

(A) Annual amount of materials and/or fuels utilized;
(B) Annual emissions (note calculation basis);
(C) Any changes in the information contained in the permit.

24. Sulfuric acid plants No. 1 and No. 2 shall not operate. [Permit AC53-185490].

PERMITTEE:
Farmland Industries, Inc.
Bartow, Florida 33830-0960

PERMIT/CERTIFICATION
Permit No: AO53-200485
County: Polk
Expiration Date: 12/17/96
Project: Sulfuric Acid Plant #5

SPECIFIC CONDITIONS:

25. Issuance of this permit does not relieve Farmland Industries, Inc. from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. Future regulations may impact this source at some future date. Farmland Industries, Inc. shall comply with any applicable future regulations when they become effective. [Rule 17-2.210, F.A.C.].

26. Four applications to renew this operation permit shall be submitted to the Southwest District Office of the Department of Environmental Regulation by October 18, 1996. [Rule 17-4.090 and 17-4.050(2), F.A.C.].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dr. Richard D. Garrity
Director of District Management
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347
Phone (813) 620-6100

COMPLIANCE TEST DATA FOR THE
REPRESENTATIVE YEARS INDICATED IN THE REPORT

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_3
STACK: SAD_3
'EST DATE: Feb 6, 1991

PERMIT NO. AO53-138909
LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
270 LB SO2 & 10.1 LB ACID MIST/H

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
TACK DIAMETER (ft.)	7.500	7.500	7.500	7.500
OZZLE DIAMETER (inches)	0.241	0.241	0.241	0.241
AMPLING TIME (min.)	84	72	72	76
TACK TEMPERATURE (deg. F)	165.00	165.00	165.00	165.00
TACK STATIC PRESSURE (WC)	-0.180	-0.180	-0.180	-0.180
OLUME SAMPLED (ACF)	48.728	41.785	42.404	44.306
OLUME SAMPLED (SCF)	48.198	41.101	41.485	43.594
TACK MOISTURE (%)	0.000	0.000	0.000	0.000
TACK VELOCITY (ft./sec.)	34.854	34.442	34.914	34.737
OLUMETRIC FLOWRATE (ACFM)	92387.98	91296.97	92546.09	92077.01
OLUMETRIC FLOWRATE (SCFM)	78758.37	77828.31	78893.16	78493.28
SO2 (mg. collected)	402.290	349.500	232.500	328.097
ACID MIST (mg. collected)	14.490	18.440	14.520	15.817
SO2 (lbs./hour)	86.970	87.558	58.497	77.675
ACID MIST (lbs./hour)	3.133	4.620	3.653	3.802
ACK GAS MOLECULAR WT.	30.000	30.000	30.000	30.000
OKINETIC VARIATION %	101.623	102.310	101.872	101.935
ODUCTION RATE (TPH H2SO4)	65.3	65.3	65.3	65.3
2 (lbs./ton)	1.332	1.341	0.896	1.190
ID MIST (lbs./ton)	0.048	0.071	0.056	0.058

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_3
STACK: SAD_3
TEST DATE: Dec 3, 1991

PERMIT NO. AO53-138909
LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
270 LB SO2 & 10.1 LB ACID MIST/H

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
STACK DIAMETER (ft.)	7.500	7.500	7.500	7.500
NOZZLE DIAMETER (inches)	0.243	0.243	0.243	0.243
SAMPLING TIME (min.)	72	72	72	72
STACK TEMPERATURE (deg. F)	185.00	185.00	185.00	185.00
STACK STATIC PRESSURE (WC)	0.070	0.070	0.070	0.070
VOLUME SAMPLED (ACF)	42.923	44.554	41.795	43.091
VOLUME SAMPLED (SCF)	41.124	42.462	41.334	41.640
STACK MOISTURE (%)	0.286	0.277	0.431	0.331
STACK VELOCITY (ft./sec.)	34.421	34.062	33.616	34.033
VOLUMETRIC FLOWRATE (ACFM)	91241.91	90289.18	89106.85	90212.65
VOLUMETRIC FLOWRATE (SCFM)	74702.20	73928.83	73430.31	74020.45
SO2 (mg. collected)	996.130	1023.040	994.530	1004.567
ACID MIST (mg. collected)	25.990	32.860	28.930	29.260
SO2 (lbs./hour)	239.396	235.650	233.746	236.264
ACID MIST (lbs./hour)	6.246	7.569	6.799	6.872
'ACK GAS MOLECULAR WT.	29.966	29.967	29.948	29.960
:OKINETIC VARIATION %	104.903	109.449	107.266	107.206
:ODUCTION RATE (TPH H2SO4)	70.5	70.5	71.3	70.8
·2 (lbs./ton)	3.396	3.343	3.278	3.339
ID MIST (lbs./ton)	0.089	0.107	0.095	0.097

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_4
STACK: SAD_4 PERMIT NO. AO53-138910
TEST DATE: April 2, 1992 LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
270 LB SO2 & 10.1 LB ACID MIST/H

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
STACK DIAMETER (ft.)	7.500	7.500	7.500	7.500
NOZZLE DIAMETER (inches)	0.245	0.245	0.245	0.245
SAMPLING TIME (min.)	72	72	72	72
STACK TEMPERATURE (deg. F)	164.00	164.00	164.00	164.00
STACK STATIC PRESSURE (WC)	-0.250	-0.250	-0.250	-0.250
VOLUME SAMPLED (ACF)	42.470	43.396	43.856	43.241
VOLUME SAMPLED (SCF)	42.508	42.883	43.023	42.805
STACK MOISTURE (%)	0.055	0.263	0.306	0.208
STACK VELOCITY (ft./sec.)	33.784	34.503	34.650	34.312
VOLUMETRIC FLOWRATE (ACFM)	89551.60	91459.20	91847.47	90952.75
VOLUMETRIC FLOWRATE (SCFM)	76002.35	77460.15	77755.69	77072.73
SO2 (mg. collected)	608.950	582.270	574.430	588.550
ACID MIST (mg. collected)	11.530	12.740	12.490	12.253
SO2 (lbs./hour)	144.044	139.147	137.349	140.180
ACID MIST (lbs./hour)	2.727	3.045	2.986	2.919
STACK GAS MOLECULAR WT.	29.993	29.968	29.963	29.975
ISOKINETIC VARIATION %	104.847	103.781	103.724	104.118
PRODUCTION RATE (TPH H2SO4)	70.1	70.1	70.1	70.1
SO2 (lbs./ton)	2.055	1.985	1.959	2.000
ACID MIST (lbs./ton)	0.039	0.043	0.043	0.042

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_4
STACK: SAD_4
TEST DATE: 1/14/93

PERMIT NO. AO53-217564
LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
270 LB SO2 & 10.1 LB ACID MIST/H

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
STACK DIAMETER (ft.)	7.500	7.500	7.500	7.500
NOZZLE DIAMETER (inches)	0.247	0.247	0.247	0.247
SAMPLING TIME (min.)	72	72	72	72
STACK TEMPERATURE (deg. F)	176.00	175.00	175.00	175.33
STACK STATIC PRESSURE (WC)	-0.160	-0.160	-0.160	-0.160
VOLUME SAMPLED (ACF)	43.490	43.817	44.590	43.966
VOLUME SAMPLED (SCF)	43.209	43.057	43.657	43.308
STACK MOISTURE (%)	0.174	0.175	0.172	0.174
STACK VELOCITY (ft./sec.)	34.660	35.206	35.453	35.106
VOLUMETRIC FLOWRATE (ACFM)	91873.12	93320.59	93975.98	93056.56
VOLUMETRIC FLOWRATE (SCFM)	76325.59	77649.73	78196.93	77390.75
SO2 (mg. collected)	789.570	808.600	791.160	796.443
ACID MIST (mg. collected)	28.160	26.220	25.730	26.703
SO2 (lbs./hour)	184.521	192.928	187.481	188.310
ACID MIST (lbs./hour)	6.581	6.256	6.097	6.311
STACK GAS MOLECULAR WT.	29.979	29.979	29.979	29.979
ISOKINETIC VARIATION %	104.412	102.269	102.971	103.217
PRODUCTION RATE (TPH H2SO4)	70.25	70.25	70.25	70.25
SO2 (lbs./ton)	2.627	2.746	2.669	2.681
ACID MIST (lbs./ton)	0.094	0.089	0.087	0.090

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_5
STACK: SAD_5
TEST DATE: 1/19/93

PERMIT NO. AO53-200485
LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
400 LB SO2 & 15 LB ACID MIST/HR
0.12 LB NOx/TON or 11.9 LB/HR

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
STACK DIAMETER (ft.)	9.500	9.500	9.500	9.500
NOZZLE DIAMETER (inches)	0.279	0.279	0.279	0.279
SAMPLING TIME (min.)	80	64	64	69
STACK TEMPERATURE (deg. F)	162.00	162.00	162.00	162.00
STACK STATIC PRESSURE (WC)	-0.230	-0.230	-0.230	-0.230
VOLUME SAMPLED (ACF)	52.068	43.025	43.030	46.041
VOLUME SAMPLED (SCF)	52.941	43.101	42.950	46.330
STACK MOISTURE (%)	0.275	0.185	0.175	0.212
STACK VELOCITY (ft./sec.)	29.293	29.681	30.020	29.664
VOLUMETRIC FLOWRATE (ACFM)	124579.90	126230.83	127673.31	126161.35
VOLUMETRIC FLOWRATE (SCFM)	106124.89	107627.88	108868.97	107540.58
SO2 (mg. collected)	770.550	643.710	657.980	690.747
ACID MIST (mg. collected)	24.030	21.330	21.820	22.393
NOx (ave. PPM)	14.0	14.5	14.8	14.417
SO2 (lbs./hour)	204.356	212.661	220.657	212.558
ACID MIST (lbs./hour)	6.373	7.047	7.317	6.912
STACK GAS MOLECULAR WT.	29.967	29.978	29.979	29.975
ISOKINETIC VARIATION %	104.130	104.489	102.935	103.851
PRODUCTION RATE (TPH H2SO4)	90.71	90.7	90.7	90.7
SO2 (lbs./ton)	2.253	2.344	2.433	2.343
ACID MIST (lbs./ton)	0.070	0.078	0.081	0.076

STACK SAMPLE SUMMARY SHEET

PLANT: SAD_5
STACK: SAD_5
TEST DATE: May 3, 1994

PERMIT NO. AO53-185490
LIMITS 4 LB SO2 & 0.15 LB ACID MIST/TON
400 LB SO2 & 15 LB ACID MIST/HR
0.12 LB NOx/TON or 11.9 LB/HR

	RUN NO. 1	RUN NO. 2	RUN NO. 3	AVERAGE
STACK DIAMETER (ft.)	9.500	9.500	9.500	9.500
NOZZLE DIAMETER (inches)	0.247	0.247	0.247	0.247
SAMPLING TIME (min.)	80	80	80	80
STACK TEMPERATURE (deg. F)	170.00	170.00	170.00	170.00
STACK STATIC PRESSURE (WC)	-0.240	-0.240	-0.240	-0.240
VOLUME SAMPLED (ACF)	38.674	38.375	38.295	38.448
VOLUME SAMPLED (SCF)	37.585	38.318	37.687	37.863
STACK MOISTURE (%)	0.075	0.049	0.000	0.041
STACK VELOCITY (ft./sec.)	27.750	27.983	28.040	27.924
VOLUMETRIC FLOWRATE (ACFM)	118018.30	119008.16	119251.82	118759.43
VOLUMETRIC FLOWRATE (SCFM)	99223.94	100082.18	100336.40	99880.84
SO2 (mg. collected)	451.620	547.800	430.550	476.657
ACID MIST (mg. collected)	38.720	39.530	37.800	38.683
NOx (ave. PPM)	14.0	11.0	11.5	12.167
SO2 (lbs./hour)	157.739	189.294	151.651	166.228
ACID MIST (lbs./hour)	13.524	13.660	13.314	13.499
NOx (lbs./hour)	10.687	8.469	8.877	9.344
STACK GAS MOLECULAR WT.	29.991	29.994	30.000	29.995
ISOKINETIC VARIATION %	100.881	101.967	100.035	100.961
PRODUCTION RATE (TPH H2SO4)	90	90.0	90.0	90.0
SO2 (lbs./ton)	1.75	2.10	1.69	1.85
ACID MIST (lbs./ton)	0.15	0.15	0.15	0.15
NOx (lbs./ton)	0.12	0.09	0.10	0.10

P 265 659 472

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

Sent to: Charles Jenkins	
Street & Number: Farmland Hydro	
Post Office, State, & ZIP Code: Bartow, 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: 10-16-97	

PS Form **3800**, April 1995

1050053-018-AC.
P30-FI-225

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

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.

1997

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:
Mr. Charles Jenkins, Mgr
Farmland Hydro, LP
P O Box 960
Bartow, Fl 33831

4a. Article Number
P 265 659 472

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

7. Date of Delivery
10/21/97

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*
X 960

6. Signature: *(Addressee or Agent)*
X Joan Fuchs

PS Form **3811**, December 1994 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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:
C.M. Farris, V.P. - Operations
Farmland Hydro, LP
County Rd 640 West
Bartow, Fl 33830

4a. Article Number
Z 127 632 522

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

7. Date of Delivery
9-28-95

5. Signature (Addressee)
Linda K. Thompson

6. Signature (Agent)

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

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Z 127 632 522

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: C.M. Farris	
Street and No.: Farmland Hydro	
P.O., State and ZIP Code: Bartow, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: 9-25-95 AC 53-265155 PSD-Fl-225	

PS Form **3800**, March 1993

AFFIDAVIT OF PUBLICATION

THE LEDGER
Lakeland, Polk County, Florida

Case No .....

STATE OF FLORIDA)
COUNTY OF POLK)

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

...Notice..of..Intent.....

.....

in the matter of .....

PSD FL 225

.....

in the .....

.....

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

August 12;

.....

1995

.....

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 .....
Classified Advertising Manager

by Robert E. Lee who is personally known to me

Sworn to and subscribed before me this 12th day of August A.D. 19 95

(Seal)

Notary Public
BARBARA THIGPEN

My Commission Expires .....

Farmland Industries
Charles Jenkins

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
BARBARA THIGPEN
COMMISSION NUMBER
CC427638
MY COMMISSION EXP.
DEC. 19,1998

Attach Notice Here

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT
PSD-FL-225

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit to Farmland Hydro, L.P., County Rood 640 West, Bartow, Florida 33830. This company operates o phosphate fertilizer manufacturing facility at thot address. The permit will allow the combined total sulfuric acid production rate of the Nos. 3, 4 and 5 plants to be increased from a total of 5,640 to 7,000 tons per day with only minor physical modifications required. A determination of Best Available Control Technology (BACT) was required since the proposed project is subject to Prevention of Significant Deterioration (PSD) regulations. BACT consists of employment of the Dual Absorption Process plus high efficiency mist eliminators. Modeling results indicate that the proposed project is not expected to cause or significantly contribute to any violation of the ambient air quality standards. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantiol interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

The application/request 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
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
8407 Laurel Fair Circle
Tampa, Florida 33619

Any person may send written comments on the proposed action to Administrator, New Source Review Section, Bureau of Air Regulation at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

F166 - 8-12: 1995

F 166

Best Available Copy

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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:
C M Farris, VP
Farmland Hydro, LP
County Rd 640 West
Bartow, Fl 33830

4a. Article Number
Z 392 979 015

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

7. Date of Delivery
8/3/95

5. Signature (Addressee)
Linda Thompson

6. Signature

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

PS

Thank you for using Return Receipt Service.

Z 392 979 015

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

PS Form 3800, March 1993

Sent to C M Farris	
Street and No. Farmland Hydro	
P.O., State and ZIP Code Bartow, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 8-3-95 AC53-265755 PSD-Fl-225	

Best Available Copy

SENDER:
- Complete ite
- Complete it:
- Print your name and address on the reverse of this form so that [illegible] 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.

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:
Charles Jenkins
Environmental Services
Fairland Hydro, LP
County Rd 640 W
Baxton, Fl 33830

4a. Article Number
Z 751 860 030

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

5. Signature (Addressee)
Linda Thompson

6. Signature (Agent)

7. Date of Delivery
3/24/95

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

PS Form [illegible]

[illegible]URN RECEIPT

Thank you for using Return Receipt Service.

s your RETURN ADDRESS completed on the reverse side?

Z 751 860 030

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Charles Jenkins	
Street and No. Fairland Hydro	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 3-22-95	

AC 53-265755
PSD-FL-225

PS Form **3800**, March 1993