STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

Mr. C.M. Farris
Farmland Hydro, L.P.
Post Office Box 960
Bartow, Florida 33831

DEP File No. 1050053-019-AC
PSD-FL-243

Enclosed is the FINAL Permit Number PSD-FL-243 for the constructionof a new 2750 tons per day sulfuric acid plant (SAP 6) at the Farmland Hydro, L.P., Green Bay Facility, Polk County. This permit is issued pursuant to Chapter 403, Florida Statutes and in accorance with Rule 62-212.400., F.A.C. - Prevention of Significant Deterioration(PSD).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 7-15-98 to the person(s) listed:

Mr. C.M. Farris, Farmland *
Mr. Brian Beals, EPA
Mr. John Bunyak, NPS
Mr. Bill Thomas, DEP

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

(Clerk) 7-15-98 (Date)

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 Addr
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
C.M. Farris
Farmland Hydro, LP
P O Box 960
Bartow, Fl 33831

4a. Article Number
P 265 659 389

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

7. Date of Delivery
7-20-98

5. Received By: *(Print Name)*
Jean Hicks

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

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

P 265 659 389

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

Sent to CM Farris	
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 7-15-98	

105C053-019-AC
PSO-FI-243

PS Form **3800**, April 1995

FINAL DETERMINATION

Farmland Hydro, L.P.

Permit No. 1050053-019-AC, PSD-FL-243

2750 Tons Per Day Sulfuric Acid Plant

An Intent to Issue an air construction permit to Farmland Hydro, L.P., to construct a new 2750 tons per day sulfuric acid plant in Polk County, was distributed on May 19, 1998. The Notice of Intent was published in the Lakeland Ledger on May 28, 1998. Copies of the draft construction permit were available for public inspection at the Department offices in Tampa and Tallahassee.

No comments were submitted by the National Park Service, the U.S. Environmental Protection Agency or the public. No comments were received from the applicant other than the attached follow up correspondence regarding the physical barriers Farmland proposes for complying with Specific Condition 15. Farmland's implementation of its proposal will adequately comply with this condition.

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

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

KA 123-97-02

MEMORANDUM

TO: Cleve Holladay, FDEP

FROM: Pradeep Raval

DATE: July 7, 1998

SUBJECT: Sulfuric Acid Plant No. 6
Farmland Hydro, L.P.
Polk County, Florida

This is a follow up to our telephone conversation regarding the physical barriers proposed by Farmland to preclude public access on to the plant property, as required in Specific Condition 15 of the draft permit.

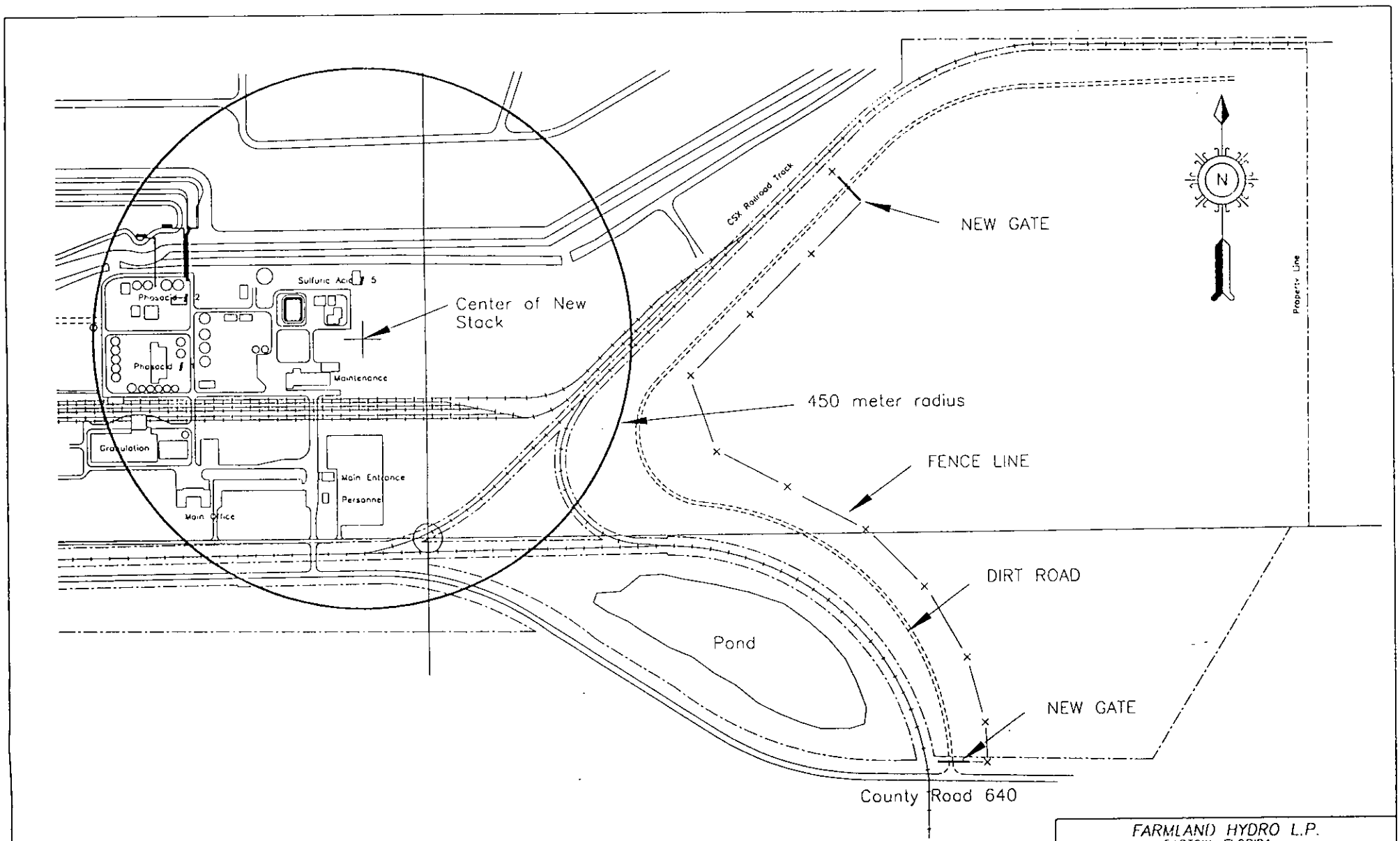
As previously discussed, the public access is presently adequately precluded from the north, south and west of the proposed No. 6 Sulfuric Acid Plant. However, additional physical barriers will be required to the east of the proposed plant (see attached drawing). Farmland proposes new gates with the fencing marked on the plot plan. This measure is expected to adequately preclude public access, from the east, to the area of concern to you.

It is anticipated that this information will complement the information you already have on the physical barriers at the site to provide the reasonable assurance in order to issue the final permit.

If you have any questions, please call me.

pai.

c: C. Jenkins, Farmland



FARMLAND HYDRO L.P.
BARTOW, FLORIDA

FARMLAND HYDRO IMMEDIATE PROPERTY

CHANGE	DRAWN BY	SCALE	
	CWJ	NONE	SHEET 2 OF 2
	CHECKED BY	DATE	DRAWING NO.
	APPROVED BY	7/7/98	c:\acadlt\sadno6.dwg

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

KA 123-97-02

MEMORANDUM

TO: Cleve Holladay, FDEP

FROM: Pradeep Raval

DATE: July 13, 1998

SUBJECT: Sulfuric Acid Plant No. 6
Farmland Hydro, L.P.
Polk County, Florida

This is a follow up to our telephone conversation today regarding the measures to be taken by Farmland to preclude public access on to the plant property, as required in Specific Condition 15 of the draft permit.

To address your specific concern, Farmland will place "No Trespassing" signs, at 200 feet interval along the road to the south of the proposed plant (in front of the main offices).

It is our understanding that this information will enable you to issue the final permit.

If you have any questions, please call me.

par.

c: C. Jenkins, Farmland

Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:

Farmland Hydro, L.P.
4390 County Road 640 West
Bartow, Florida 33830

File No.	1050053-019-AC
FID No.	1050053
SIC No.	2819
Permit No.	PSD-FL-243
Expires:	October 31, 2000

Authorized Representative:
C. M. Farris
Vice-President, Operations

PROJECT AND LOCATION:

Permit for the construction of a 2750 tons per day sulfur-burning, double absorption sulfuric acid plant and associated sulfur storage and handling equipment serving a phosphate fertilizer facility located at the above address in Polk County. UTM coordinates are Zone 17; 410.3 km E; 3079.7 km N.

STATEMENT OF BASIS:

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

Appendices and attachments made a part of this permit:

Appendix A	Best Operational Start-up Procedures for Sulfuric Acid Plants
Appendix BD	Best Available Control Technology Determination
Appendix CSC	Emission Unit(s) Common Specific Conditions
Appendix GC	Construction Permit General Conditions

for Howard L. Rhodes, Director
Division of Air Resources
Management

AIR CONSTRUCTION PERMIT 1050053-019-AC

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

The new SAP 6 will consist of a sulfuric acid plant and associated molten sulfur storage and handling equipment. Air pollution control equipment consists of the double absorption process, and high efficiency mist eliminators on the final tower.

EMISSION UNITS

This permit addresses the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
003	Process	Sulfuric Acid Plant No. 3
038	Process	Sulfuric Acid Plant No. 6
030-036	Raw Material	Molten Sulfur Storage and Handling System

REGULATORY CLASSIFICATION

The facility is classified as a "Major or Title V Source" per Rule 62-210.200, F.A.C., Definitions, because emissions of at least one regulated air pollutant exceed 100 tons per year (TPY).

Sulfuric acid plants are listed as a Major Facility Category in Table 62-212.400-1, F.A.C., "Major Facility Categories." Therefore, stack and fugitive emissions of over 100 TPY of sulfur dioxide are sufficient to classify the installation as a "Major Facility" per the definitions in **Rule 62-210.200, F.A.C.,** subject to the Significant Emission Rates for sulfuric acid mist and nitrogen oxides given in Table 62-212.400-2, F.A.C. and the requirements of **Rules 62-212.400 and 410, F.A.C.,** Prevention of Significant Deterioration (PSD) and Best Available Control Technology (BACT).

The molten sulfur storage and handling equipment is subject to **Rule 62-212.600, F.A.C.**. The sulfuric acid plant is also subject to 40 CFR Subpart H, New Source Performance Standards (NSPS) for Sulfuric Acid Plants, incorporated by reference in **Rule 62-204.800, F.A.C.**

PERMIT SCHEDULE:

- 05/28/98 Notice of Intent published in Lakeland Ledger
- 05/19/98 Distributed Intent to Issue Permit
- 04/24/98 Application deemed complete
- 11/20/97 Received Application

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permit but do not supersede the conditions given in the permit. These documents are on file with the Department.

- Application received November 20, 1997
- Department's letters dated November 20 and December 18, 1997, February 11 and March 26, 1998
- Comments from the National Park Service dated January 7, 1998
- Applicant's completeness responses dated January 16, March 13, and April 24, 1998
- Department's Intent to Issue package dated May 19, 1998
- Applicant's plans for limiting public access dated July 7, 1998
- Department's Final Determination accompanying permit dated July 14, 1998

SECTION I. FACILITY INFORMATION

GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department of Environmental Protection, Southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 (phone number: 813/744-6100). All applications for permits to construct or modify an emissions unit(s) *subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blairstone Road, Tallahassee, Florida 32399-2400 (phone number 850/488-1344).

2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in *Appendix GC* of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. **[Rule 62-4.160, F.A.C.]**

3. Emission Unit(s) Common Specific Conditions: The owner and operator is subject to and shall operate under the attached Emission Unit(s) Common Specific Conditions listed in *Appendix CSC* of this permit. The Emission Unit(s) Common Specific Conditions are binding and enforceable pursuant to Chapters 62-204 through 62-297 of the Florida Administrative Code.

4. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

5. Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. **[Rule 62-210.900, F.A.C.]**

6. Expiration: This air construction permit shall expire on October 31, 2000 **[Rule 62-210.300(1), F.A.C.].** The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Southwest District Office of any delays in completion of the project which would affect the startup day by more than 90 days. **[Rule 62-4.090, F.A.C]**

7. Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Southwest District Office. **[Chapter 62-213, F.A.C.]**

SECTION I. FACILITY INFORMATION

SPECIFIC CONDITIONS - SULFURIC ACID PLANT AND MOLTEN SULFUR STORAGE AND HANDLING:

The following Specific Conditions apply to the following emission units:

EMISSIONS UNIT NO.	SYSTEM	EMISSIONS UNITS DESCRIPTION
003	Process	Sulfuric Acid Plant No. 3
038	Process	Sulfuric Acid Plant No. 6
030-036	Raw Material	Molten Sulfur Storage and Handling System

1. Emissions unit 038 shall comply with all applicable provisions of the 40 CFR 60, Standards of Performance for New Stationary Sources, Subpart H, Sulfuric Acid Plants. **[Rule 62-204.800(7)(b)10., F.A.C]**

2. Emissions unit 038 shall also comply with all applicable requirements of 40 CFR 60, Standards of Performance for New Stationary Sources, Subpart A, General Provisions. These include:

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

3. Emissions of sulfur dioxide (SO_2), sulfuric acid mist (SAM), visible emissions (VE), and nitrogen oxides (NO_X) from the sulfuric acid plant shall not exceed the following limits: **[Rules 62-204.800(7)(b)10; 62-210.200; 62-212, F.A.C.]**

Pollutant	Pounds per Hour	Tons per Year	Limit Basis
SO_2	401.0	1757	3.5 lb/ton 100% H_2SO_4 produced (BACT)[1]
SAM	17.2	75	0.15 lb/ton 100% H_2SO_4 produced (NSPS)[1]
VE	10% opacity		NSPS
NO_X	13.8	60	0.12 lb/ton 100% H_2SO_4 produced (BACT)

1. Annual EPA Method 8 test is required to demonstrate compliance.

4. The design production capacity of the No. 6 plant shall not exceed 2,750 tons per day (TPD) of 100 percent (%) sulfuric acid. The production rate shall not exceed 2,750 TPD as 100% sulfuric acid on a 24-hour basis. **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

5. The maximum molten sulfur utilization rate for the facility shall neither exceed 2,530 TPD nor 924,000 tons per year. (Based on the maximum permitted sulfuric acid production rate of 7,650 TPD of 100% sulfuric acid for the facility) **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

6. These emissions units are allowed to operate continuously (8760 hours/year) **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

7. The existing No. 3 sulfuric acid plant (Emission Unit No. 003) shall cease operation and be permanently shut down when a new No. 6 sulfuric acid plant commences commercial operations. **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

SECTION I. FACILITY INFORMATION

8. The permittee shall comply with all applicable requirements of the Department's sulfur storage and handling rule. **[Rule 62-296.411, F.A.C.]**

9. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. **[Rule 62-296.320, F.A.C.]**

10. In order to minimize excess emissions during startup/shutdown/malfunction these emissions units shall adhere to best operational practices. The provisions of the Memorandum of Understanding issued by the Department on November 21, 1989, are hereby added to this permit as Appendix A and shall be added to the Title V permit. **[Rule 62-210.700, F.A.C., 40 CFR 60.7]**

11. A continuous emissions monitoring system (CEMS) for the measurement of sulfur dioxide emissions shall be installed, calibrated, operated and maintained in accordance with 40 CFR 60.84 (1996 version)

12. Compliance with the emission limits for SO_2, SAM, and NO_X shall be determined using the following reference methods as described in 40 CFR 60, Appendix A (1996, version), adopted by reference in Chapter 62-204, F.A.C.

Method 7E	Determination of Nitrogen Oxides from Stationary Sources.
Method 8	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources. (for demonstrating compliance with 40 CFR 60, Subpart H)
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources.

These emissions units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8 Performance Tests.

Testing of emissions shall be conducted with the emissions units operating at permitted capacity, which is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

13. This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to this permit. The Department shall be notified in writing at least 15 days prior to compliance testing. Written reports of the compliance tests shall be submitted to the Southwest District Office within 45 days of test completion. **[Rule 62-4.070(3), F.A.C.]**

14. An application for a Title V permit for the No. 6 sulfuric acid plant shall be submitted to the Department at least 90 days prior to the expiration date of this permit. Any request for the extension of this permit shall be submitted to the Department 60 days prior to permit expiration.

15. This facility shall maintain adequate fencing or physical barriers around the area within 450 meters of the origin of the polar coordinate system used as input in the air dispersion modeling submitted with the permit application.

APPENDIX A
BEST OPERATIONAL START-UP PRACTICES FOR SULFURIC ACID PLANTS

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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 of the 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 startup. 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.

APPENDIX A
BEST OPERATIONAL START-UP PRACTICES FOR SULFURIC ACID PLANTS

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 technologies 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.

APPENDIX CSC

EMISSION UNIT(S) COMMON SPECIFIC CONDITIONS

SUBSECTION 1.0 CONSTRUCTION REQUIREMENTS

1.1 Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-296, 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Part 60, adopted by reference in the Florida Administrative Code regulation **[Rule 62-204.800 F.A.C.]**. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. **[Rule 62-210.300, F.A.C.]**

SUBSECTION 2.0 EMISSION LIMITING STANDARDS

2.1 General Particulate Emission Limiting Standards. General Visible Emissions Standard: Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density if which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20% opacity). **[Rule 62-296-320(4)(b)1, F.A.C.]**

2.2 Unconfined Emissions of Particulate Matter **[Rule 62-296.320(4)(c), F.A.C.]**

(a) The owner or operators shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any source whatsoever, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially related activities such as loading, unloading, storing or handling, without taking reasonable precautions to prevent such emission.

(b) Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter.

(c) Reasonable precautions include the following:

- Paving and maintenance of roads, parking areas and yards.
- Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
- Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.

- Landscaping or planting of vegetation.
- Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- Confining abrasive blasting where possible.
- Enclosure or covering of conveyor systems.

NOTE: Facilities that cause frequent, valid complaints may be required by the Permitting Authority to take these or other reasonable precautions. In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

2.3 General Pollutant Emission Limiting Standards: **[Rule 62-296.320, F.A.C.]**

(a) The owner or operator shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems.

(b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

NOTE: An objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [F.A.C. 62-210.200(198)]

SUBSECTION 3.0 OPERATION AND MAINTENANCE

3.1 Changes/Modifications: The owner or operator shall submit to the Permitting Authority(s), for review any changes in, or modifications to: the method of operation; process or pollution control equipment; increase in hours of operation; equipment capacities; or any change which would result in an increase in potential/actual emissions. Depending on the size and scope of the modification, it may be necessary to submit an application for, and obtain, an air construction permit prior to making the desired change. *Routine maintenance of equipment will not constitute a modification of this permit.* **[Rule 62-4.030, 62-210.300 and 62-4.070(3), F.A.C.]**

3.2 Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Permitting Authority as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any

liability for failure to comply with the conditions of this permit and the regulations. **[Rule 62-4.130, F.A.C.]**

3.3 Circumvention: The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. **[Rules 62-210.650, F.A.C.]**

3.4 Excess Emissions Requirements **[Rule 62-210.700, F.A.C.]**

(a) Excess emissions resulting from start-up, shutdown or malfunction of these emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Permitting Authority office for longer duration. **[Rule 62-210.700(1), F.A.C.]**

(b) Excess emissions that are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during start-up, shutdown, or malfunction shall be prohibited. **[Rule 62-210.700(4), F.A.C.]**

(c) In case of excess emissions resulting from malfunctions, the owner or operator shall notify Permitting Authority within one (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the problem; and the corrective actions being taken to prevent recurrence. **[Rule 62-210.700(6), F.A.C.]**

3.5 Operating Procedures: Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. **[Rule 62-4.070(3), F.A.C.]**

SUBSECTION 4.0 MONITORING OF OPERATIONS

4.1 Determination of Process Variables

(a) The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. **[Rule 62-297.310(5), F.A.C]**

SUBSECTION 5.0 TEST REQUIREMENTS

5.1 Test Performance Within 60 days after achieving the maximum production rate at which these emission units will be operated, but not later than 180 days after initial startup and annually thereafter, the owner or operator of this facility shall conduct performance test(s) pursuant to 40 CFR 60.8, Subpart A, General Provisions and 40 CFR 60, Appendix A. No other test method shall be used unless approval from the Department has been received in writing. Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emission unit(s) operating at permitted capacity pursuant to Rule 62-297.310(2), F.A.C. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C.]**

5.2 Test Procedures shall meet all applicable requirements of the Florida Administrative Code Chapter 62-297. **[Rule 62-297.310, F.A.C.]**

5.3 Test Notification: The owner or operator shall notify the Permitting Authority in writing at least *(30) days* (initial) and *15 days* (annual) prior to each scheduled compliance test to allow witnessing. The notification shall include the compliance test date, place of such test, the expected test time, the facility contact person for the test, and the person or company conducting the test. The (30) or (15) day notification requirement may be waived at the discretion of the Department. Likewise, if circumstances prevent testing during the test window specified for the emission unit, the owner or operator may request an alternate test date before the expiration of this window. **[Rule 62-297.310 and 40 CFR 60.8, F.A.C.]**

5.4 Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rule 62-204, 62-210, 62 -212, 62-296 and 62-297, F.A.C. or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Permitting Authority. **[Rule 62-297.310(7)(b), F.A.C.]**

5.5 Stack Testing Facilities: The owner or operator shall install stack testing facilities in accordance with **Rule 62-297.310(6), F.A.C.**.

5.6 Exceptions and Approval of Alternate Procedures and Requirements: An Alternate Sampling Procedure (ASP) may be requested from the Bureau of Air Monitoring and Mobile Sources of the Florida Department of Environmental Protection in accordance with the procedures specified in **Rule 62-297.620, F.A.C.**

5.7 Operating Rate During Testing: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operation at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new

test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. **[Rule 62-297.310(2) and (3), F.A.C.]**

SUBSECTION 6.0 REPORTS AND RECORDS

6.1 Duration: All reports and records required by this permit shall be kept for at least (5) years from the date the information was recorded. **[Rule 62-4.160(14)(b), F.A.C.]**

6.2 Emission Compliance Stack Test Reports:

(a) A *test report* indicating the results of the required compliance tests shall be filed with the Permitting Authority as soon as practical, but no later than 45 days after the last sampling run is completed. **[Rule 62-297.310(8), F.A.C.]**

b) The *test report* shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in **Rule 62-297.310(8), F.A.C.**

6.3 Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the Permitting Authority within (1) working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. **[Rules 62-4.130 and 62-210.700(6), F.A.C.]**

6.4 Annual Operating Report for Air Pollutant Emitting Facility: Before March 1st of each year, the owner or operator shall submit to the Permitting Authority this required report [DEP Form No. 62-210.900(5)], which summarizes operations for the previous calendar year. **[Rule 62-210.370(3), F.A.C.]**

SUBSECTION 7.0 OTHER REQUIREMENTS

7.1 Waste Disposal: The owner or operator shall treat, store, and dispose of all liquid, solid, and hazardous wastes in accordance with all applicable Federal, State, and Local regulations. This air pollution permit does not preclude the permittee from securing any other types of required permits, licenses, or certifications.

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

G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

(a) Have access to and copy and records that must be kept under the conditions of the permit;
(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

(a) A description of and cause of non-compliance; and
(b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extend it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

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

G.13 This permit also constitutes:

(a) Determination of Best Available Control Technology *(X)*
(b) Determination of Prevention of Significant Deterioration *(X)*; and
(c) Compliance with New Source Performance Standards *(X)*.

G.14 The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The person responsible for performing the sampling or measurements;
3. The dates analyses were performed;
4. The person responsible for performing the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Sulfuric Acid Plant
Farmland Hydro, L.P.
PSD-FL-243 and 1050053-019-AC
Bartow, Polk County

BACKGROUND

The applicant, Farmland Hydro, L.P., proposes to replace the existing 2100 ton per day (TPD) No. 3 sulfuric acid plant (SAP) with a new 2750 TPD No. 6 SAP at the existing facility in Polk County.

The proposed project will result in "significant increases" with respect to Table 62-212.400-2, Florida Administrative Code (F.A.C.) of emissions of sulfur dioxide (SO_2), sulfuric acid mist (SAM), and nitrogen oxides (NO_X). The project is therefore subject to review for the Prevention of Significant Deterioration (PSD) and a determination of Best Available Control Technology (BACT) in accordance with Rule 62-212.400, F.A.C.

Descriptions of the process, project, ambient air quality effects, and rule applicability are given in the separate Technical Evaluation and Preliminary Determination issued with the Department's Intent and Public Notice package.

DATE OF RECEIPT OF A BACT APPLICATION:

The BACT application was received on November 20, 1997.

REVIEW GROUP MEMBERS:

Syed Arif, P.E.

BACT DETERMINATION REQUESTED BY THE APPLICANT:

POLLUTANT	CONTROL TECHNOLOGY	PROPOSED BACT LIMIT
Sulfur Dioxide	Double Absorption	3.5 pounds per ton 100% H_2SO_4
Sulfuric Acid Mist	Fiber Mist Eliminators	0.15 pounds per ton 100% H_2SO_4
Visibility	As Above and Process Controls	10 percent
Nitrogen Oxides	None - Low Fuel Nitrogen, Combustion Temperature	0.12 pounds per ton 100% H_2SO_4

The applicant has proposed to use the double absorption process and improved process control technology to achieve the proposed limits. These limits will be met by converting SO_2 produced into sulfur trioxide (SO_3), absorbing the SO_3 in circulating streams of sulfuric acid, and minimizing SAM formation and losses by process controls and high efficiency mist eliminators.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

BACT DETERMINATION PROCEDURE:

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

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

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

BACT DETERMINATION BY DEP:

POLLUTANT	CONTROL TECHNOLOGY	EMISSION LIMIT
Sulfur Dioxide	Double Absorption	3.5 lb/ton 100% H_2SO_4
Sulfuric Acid Mist	High Efficiency Mist Eliminators	0.15 pounds per ton 100% H_2SO_4
Visibility	As Above and Process Controls	10 percent
Nitrogen Oxides	None - Low Fuel Nitrogen, Combustion Temperature	0.12 lb/ton 100% H_2SO_4 Applicant Estimate

DETERMINATION RATIONALE:

The BACT determination has been based on the established double absorption technology wherein the production process and the BACT are identical, thus eliminating the need for add-on control equipment. The applicant's BACT proposal for SO_2 is more stringent than the NSPS and previous BACT determinations.

The BACT determination for the permit issued on February 2, 1998 to Piney Point Phosphates, Manatee County serves as a basis for the evaluation of the new plant at Farmland, L.P. In the evaluation of the Piney Point plant, the Department concluded that an SO_2 emission limit of 2.4-3.2 pounds per ton of acid produced was feasible by using cesium-promoted vanadium catalyst in the final pass in place of conventional vanadium catalyst. According to Monsanto Enviro-Chem, the full service vendor, the optimum plant operating conditions for the Farmland project are such that the cesium promoted catalyst will not yield a reduction in SO_2 emissions. This is because the Monsanto cesium-promoted catalyst has an advantage over the non-cesium product only at lower temperatures.

The Department notes that Haldor-Topsoe claims its cesium line has an advantage over its non-cesium line at all typical operating temperatures. However the Haldor-Topsoe product is not an option for this project and the Department recognizes that the applicant has alternatives available to achieve emissions reflective of the Department's BACT determination.

The applicant will achieve the proposed emissions limits by improving the sulfur dioxide conversion of a traditional double absorption plant. The improvement over a traditional plant will be accomplished by an increase in the size of the converter; increase in the catalyst loading; increase in the plant operating pressure to overcome the additional pressure drop; increase in heat exchange capacity to accommodate the increase in heat of reaction; and, increase in the horsepower of the main compressor turbine drive to accommodate the higher discharge pressure. This is considered to be equivalent to BACT for sulfur dioxide. The emission limit of 3.5 pounds per ton of acid averaged over three hours is more stringent than the limit set for the Piney Point Plant where emissions are averaged over 48 hours.

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

The Department agrees with the applicant that the sulfur burning process utilized in the sulfuric acid plant inherently produces low NO_X emissions, and is considered BACT for NO_X.

COMPLIANCE METHODOLOGY:

Demonstration of compliance with the emissions limits shall be as required by Subpart H. These are EPA Reference Method 8 for SO_2 and SAM. EPA Methods 1, 2, and 3 shall be used to determine stack and flue gas properties. An initial and annual compliance test for NO_X using EPA Method 7E is required to verify the low emission rate projected in the application.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

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

Recommended By:

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

7/15/98
Date:

Approved By:

for Howard L. Rhodes, Director
Division of Air Resources Management

7/15/98
Date:

Memorandum

Florida Department of
Environmental Protection

TO: Howard L. Rhodes

THRU: Clair Fancy
Al Linero 7/14

FROM Syed Arif

DATE: July 14, 1998

SUBJECT: Farmland Hydro, L.P., 1050053-019-AC,
PSD-FL-243

Attached for approval and signature is a construction permit number 1050053-019-AC, PSD-FL-243 for Farmland's new 2750 tons per day sulfuric acid plant to be located near Bartow in Polk County, Florida. A Technical Evaluation and Preliminary Determination was issued, and the facility was required to do a public notice.

The new unit is a source of sulfur dioxide and sulfuric acid mist emissions. Control of SO_2 emissions is accomplished by the process itself which is based on the conversion of SO_2 to SO_3 and subsequent recovery as sulfuric acid product. The BACT emission limit for SO_2 was determined by the Department to be 3.5 pounds per ton of sulfuric acid produced on a three hour basis. This BACT limit is the most stringent in Florida for a sulfuric acid plant. The high efficiency mist eliminators together with proper plant operation serve to minimize sulfuric acid mist emissions.

The project provides reasonable assurance that all the requirements of the permit and BACT determination will be complied with. I recommend your approval and signature.