

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT

Mr. C. M. Farris
General Manager
Farmland Industries, Inc.
P. O. Box 960
Bartow, Florida 33830


February 4, 1991

Enclosed is construction permit No. AC 53-185490, PSD-FL-143A, to increase the production rate of the No. 5 sulfuric acid plant at Farmland Industries, Inc. near Bartow, Polk County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this 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 permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copy furnished to:

B. Thomas, SW District
J. Harper, EPA
J. Koogler, P.E.

P 407 853 146

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

U.S.G.P.O. 1989-234-555
PS Form 3800, June 1985

Sent to	C.M. Harris
Street and No.	Saraland, Ind.
P.O. State and ZIP Code	Barlow, FI
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	2-4-91 AC 53-185490 PSD-FI-143A

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional servicel(s) requested.

- 1. Show to whom delivered, date, and addressee's address. (Extra charge)
- 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. C.M. Harris, Gen. Mgr. Saraland Industries P.O. Box 960 Barlow, FI 33830	4. Article Number P 407 853 146
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X Linda Thompson	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 2-7-91 MB	

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 2-4-91.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Lyn Deber
Clerk

2-4-91
Date

Final Determination ,

Farmland Industries, Inc.
Green Bay Complex
Bartow, Polk County, Florida

Sulfuric Acid Plant No. 5
Production Increase to 2,400 TPD

Permit No. AC 53-185490
PSD-FL-143A

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

January 25, 1990

Final Determination

The Technical Evaluation and Preliminary Determination for the permit to increase the production rate of the No. 5 sulfuric acid plant at Farmland Industries, Inc. near Bartow, Polk County, Florida, was distributed on November 15, 1990. The Notice of Intent to Issue was published in The Ledger on November 29, 1990. Copies of the evaluation were available for public inspection at the Department's Tallahassee and Tampa offices.

Comments were submitted by Koogler & Associates on the Department's Intent to Issue the permit. The comments included two requests: (1) modify Specific Condition No. 5 to state that nitrogen oxide emissions "are not expected to exceed ---" instead of "shall not exceed ---" and (2) delete the annual test requirement for nitrogen oxides. In response to (1), the Department used the same language in the proposed permit (for increased production) as was used without objection in the original permit for construction (AC 53-185490, PSD-FL-143). If the general NOx emission factor used in both permits is found to be improper, the Department will consider amending both permits accordingly. In response to (2), the annual NOx test data will assist both the permittee and the Department in ascertaining the proper NOx emission factor to use if such amendments are required. Therefore, the final action of the Department will be to issue construction permit AC 53-185490, PSD-FL-143A as proposed in the Technical Evaluation and Preliminary Determination.



Florida Department of Environmental Regulation

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Lawton Chiles, Governor

PERMITTEE:
Farmland Industries, Inc.
P. O. Box 960
Bartow, FL 33830

Permit Number: AC 53-185490
PSD-FL-143A
Expiration Date: Sept. 30, 1991
County: Polk
Latitude/Longitude: 27°50'37"N
81°56'05"W
Project: Sulfuric Acid Plant
No. 5 - Production Increase to
2400 TPD

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 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 increase in production from 2000 TPD to 2400 TPD of sulfuric acid in plant No. 5. The source is located at the permittee's existing facility near Bartow, Polk County, Florida. The UTM coordinates are Zone 17, 409.5 km East and 3079.5 km North.

The increase in production shall be carried out 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 on August 23, 1990.
2. Koogler & Associates' letter dated November 30, 1990.
3. EPA's letter dated December 5, 1990.

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
PSD-FL-143A
Expiration Date: September 30, 1991

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.

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
PSD-FL-143A
Expiration Date: September 30, 1991

GENERAL CONDITIONS:

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.

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.

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
PSD-FL-143A
Expiration Date: September 30, 1991

GENERAL CONDITIONS:

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 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 Florida Administrative Code Rules 17-4.120 and 17-30.300, 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

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.

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
PSD-FL-143A
Expiration Date: September 30, 1991

GENERAL CONDITIONS:

- 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 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. The construction and operation of the No. 5 sulfuric acid plant shall be in accordance with the capacities and specifications stated in the application.
2. The maximum production rate of the No. 5 sulfuric acid plant shall not exceed 2400 tons per day based on 100% H₂SO₄.
3. Sulfur dioxide emissions shall not exceed:

4 lbs/ton of 100% sulfuric acid produced
400 lbs/hr
1752 tons/yr

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
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Expiration Date: September 30, 1991

SPECIFIC CONDITIONS:

4. Sulfuric acid mist emissions shall not exceed:

0.15 lb/ton of 100% sulfuric acid produced
15.0 lbs/hr
65.7 tons/yr

5. Nitrogen oxides emissions shall not exceed:

0.12 lb/ton of 100% sulfuric acid produced
11.9 lbs/hr
52.2 tons/year

6. Visible emissions shall not exceed 10% opacity.

7. Sulfuric acid plants No. 1 and No. 2 shall permanently cease operation within 90 days after the No. 5 sulfuric acid plant begins operation.

8. A continuous emission monitor shall be used to monitor sulfur dioxide, in accordance with F.A.C. Rule 17-2.710. Initial and annual compliance tests shall be conducted using:

EPA Method 7 for nitrogen oxides
EPA Method 8 for sulfur dioxide and acid mist
DER Method 9 for visible emissions

9. The compliance tests shall be conducted within 30 days after operation begins. The Department's Southwest District office shall be notified in writing 15 days prior to source testing and at least 5 days prior to initial startup. Written reports of the tests shall be submitted to that office within 45 days of test completion.

10. The permittee, for good cause, may 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 date of the permit (F.A.C. Rule 17-4.090).

11. 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 sequential startup/shutdown of the permittee's three sulfuric acid plants. To

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-185490
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Expiration Date: September 30, 1991

SPECIFIC CONDITIONS:

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 (F.A.C. Rule 17-4.220).

Issued this 1 day
of February, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Farmland Industries, Inc.
Polk County

The applicant proposes to increase sulfuric acid production from 2,000 tons per day to 2,400 tons per day at their existing No. 5 sulfuric acid plant in Polk County.

The proposed project will result in a significant increase in emissions of SO₂ and acid mist. The project is therefore subject to Prevention of Significant Deterioration (PSD) review in accordance with F.A.C. Rule 17-2.500(5).

The BACT review is part of the PSD review requirements in accordance with F.A.C. Rule 17-2.500(5)(c).

Date of Receipt of a BACT application:

August 23, 1990

BACT Determination Requested by the Applicant:

The BACT determination requested by the applicant is presented below:

<u>Control Technology</u>	<u>Double Absorption/Fiber Mist Eliminators</u>
<u>Pollutant</u>	<u>Emission Limits</u>
SO ₂	4 lb/ton of 100% H ₂ SO ₄ produced
Acid Mist	0.15 lb/ton of 100% H ₂ SO ₄ produced
Visible Emissions	10% opacity
NOx	0.12 lb/ton

Basis of Review:

This determination was based upon input from the applicant, EPA Region IV, and the Bureau of Air Regulation.

BACT Determination Procedure:

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination will be based on the maximum degree of reduction of each pollutant emitted which the Department (DER), 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.

In addition to the criteria discussed above, the EPA requires that BACT should be determined using the "top-down" approach. The first step in this approach is to determine 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 DER:

<u>Control Technology</u>	Double Absorption/Fiber Mist Eliminators
<u>Pollutant</u>	<u>Emission Limits</u>
SO ₂	4.0 lb/ton of 100% H ₂ SO ₄ produced
Visible Emissions	10% opacity
Acid Mist	0.15 lb/ton of 100% H ₂ SO ₄ produced
NO _x	0.12 lb/ton

BACT Determination Rationale

DER's BACT determination is the same as that proposed by the applicant, determinations completed by other states, and Standards of Performance for Sulfuric Acid Plants, 40 CFR 60 Subpart H, (double absorption process). The process in itself is the control technology for SO₂ and acid mist. The emission limits reflect conversion efficiency of around 99.7% of SO₂ to H₂SO₄. High efficiency mist eliminators are considered BACT for acid mist. A review of BACT/LAER Clearinghouse indicates that

the double absorption technology, and the use of high efficiency mist eliminators is representative of BACT using the top down approach.

A BACT determination for nitrogen oxides is not required for this production increase. However, the same nitrogen oxides limits will apply as determined in the prior BACT determination for the construction of the No. 5 sulfuric acid plant.

Environmental Impact Analysis

The impact analysis for the BACT determination is based on 8760 hrs/yr operation. The ambient air quality impact analysis resulted in the following for SO₂ emissions:

<u>Averaging Time</u>	<u>Predicted Impact (ug/m³)</u>	<u>Deminimus (ug/m³)</u>	<u>Fla. AAQS (ug/m³)</u>
<u>SO₂</u>			
Annual	(less than 0)	N/A	60
24-hr	(less than 0.01)	13.0	260
3-hr	0.01	N/A	1300

Conclusion


The incremental impact from SO₂ due to the proposed modification is insignificant. The impacts associated with the proposed increase in production support the Department's determination that the emission limits established herein represent BACT.


Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E.
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:


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


Carol M. Browner, Secretary
Dept. of Environmental Regulation

January 25, 1991
Date

2/1/ 1991
Date



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To _____	Location _____
To _____	Location: _____
To _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Carol M. Browner

FROM: Steve Smallwood *JS*

DATE: January 25, 1991

SUBJ: Approval of Construction Permit AC 53-185490, PSD-FL-143A
Farmland Industries, Inc.

Attached for your approval and signature is a permit and accompanying Best Available Control Technology (BACT) determination prepared by the Bureau of Air Regulation for the above mentioned company. The permit will allow an increase in the production rate of the No. 5 sulfuric acid plant at Farmland Industries, Inc. near Bartow, Polk County, Florida.

Comments were received during the public notice period and addressed in the Final Determination. I recommend your approval and signature.

SS/JR/plm

Attachments

Signed