

Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant 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

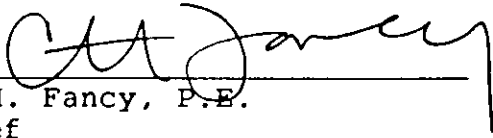
January 31, 1990

Enclosed is construction permit No. AC 53-171751, PSD-FL-143 to construct a 2,000 TPD sulfuric acid plant at your facility 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
R. Tedder, P.E.
G. Worley, EPA

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 2-1-90.

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.

Kenneth J. Jaber
Clerk

2-1-90
Date

Final Determination

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

Sulfuric Acid Plant No. 5
Permit No. AC 53-171751
PSD-FL-143

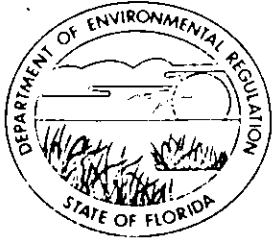
Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

January 26, 1990

Final Determination

The construction permit application has been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in the Polk County Democrat on December 25, 1989. The Technical Evaluation and Preliminary Determination were available for public inspection at the Department's Southwest District office in Tampa and the Bureau of Air Regulation in Tallahassee.

No comments were received during the public notice period. Therefore, the final action of the Department will be to issue the construction permit as drafted.



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

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

Permit Number: AC 53-171751
PSD-FL-143
Expiration Date: Sept. 30, 1991
County: Polk
Latitude/Longitude: 27°50'37"N
81°56'05"W
Project: Sulfuric Acid Plant
No. 5

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 construction of Sulfuric Acid Plant No. 5. The project will be 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 source shall be constructed 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 to construct received October 23, 1989.
2. DER's letter of incompleteness dated November 21, 1989.
3. EPA's letter dated November 29, 1989.
4. Koogler & Associates letter dated November 29, 1989.

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-171751
PSD-FL-143
Expiration Date: Sept. 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 53-171751
PSD-FL-143
Expiration Date: Sept. 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 53-171751
PSD-FL-143
Expiration Date: Sept. 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 proscribed 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 53-171751
PSD-FL-143
Expiration Date: Sept. 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 2000 tons per day based on 100% H₂SO₄.

3. Sulfur dioxide emissions shall not exceed:

4 lbs/ton of 100% sulfuric acid produced
333.3 lbs/hr
1460 tons/yr

4. Sulfuric acid mist emissions shall not exceed:

0.15 lb/ton of 100% sulfuric acid produced
12.5 lbs/hr
54.8 tons/yr

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-171751
PSD-FL-143
Expiration Date: Sept. 30, 1991

SPECIFIC CONDITIONS:

5. Nitrogen oxides emissions shall not exceed:

0.12 lb/ton of 1005 sulfuric acid produced
10.0 lbs/hr
43.8 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 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).

PERMITTEE:
Farmland Industries, Inc.

Permit Number: AC 53-171751
PSD-FL-143
Expiration Date: Sept. 30, 1991

Issued this 30 day
of Jan, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtman, Secretary

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

The applicant proposes to construct a 2,000 tons per day double absorption sulfuric acid plant with cogeneration capability at their existing facility in Polk County. The project involves a sulfuric acid production increase of 400 tons per day since the existing sulfuric acid plants No. 1 and No. 2 will cease operation permanently (1600 tons per day).

The proposed project will result in a significant increase in emissions of SO₂, acid mist, and NO_x. 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:

October 23, 1989

BACT Determination Requested by the Applicant:

The BACT determination requested by the applicant is presented below:

<u>Control Technology</u>	Double Absorption/Fiber Mist Eliminators
<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
NO _x	0.12 lb/ton

Basis of Review:

This determination was based upon comments received 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 review of the BACT/LAER Clearinghouse does not indicate any control technologies or emission limits for nitrogen oxides emissions from sulfuric acid plants. The proposed emission level, equivalent to 0.03 pounds per million Btu, is well below the BACT levels that are typically established for sources emitting nitrogen oxides and is hence deemed BACT for this facility.

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 and NO_x emissions:

Averaging Time	Predicted Impact (ug/m ³)	Deminimus (ug/m ³)	Fla. AAQS (ug/m ³)
<u>SO₂</u>			
Annual	(less than 0)	N/A	60
24-hr	0.0002	13.0	260
3-hr	0.016	N/A	1300
<u>NO_x</u>			
Annual	3.9	14.0	100

Conclusion

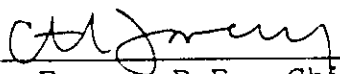
The incremental impact from SO₂ due to the proposed modification is insignificant. For NO_x emissions, the impacts are also well below the standard. As this is the case, the impacts associated with facility supports the Department's determination that the emission limits established herein represent BACT.

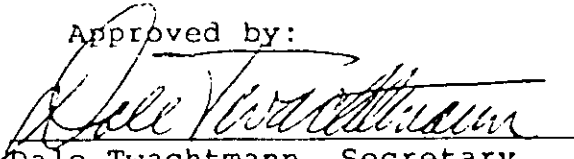
Details of the Analysis May be Obtained by Contacting:

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

Recommended by:

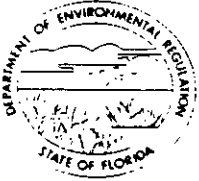
Approved by:


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


Dale Twachtmann, Secretary
Dept. of Environmental Regulation

January 29 1990
Date

30 Jan 1990
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

*Please call
Patty Adams
when signed
8-1344*

TO: Dale Twachtmann

for FROM: Steve Smallwood *Steve Smallwood*

DATE: January 26, 1990

SUBJ: Approval of Construction Permit No. AC 53-171751
PSD-FL-143, Farmland Industries, Inc.

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct a 2,000 TPD sulfuric acid plant near Bartow, Florida.

No comments were received during the public notice period.

Day 90, after which this permit will be issued by default is March 28, 1990.

I recommend your approval and signature.

SS/JR/t

attachments

RECEIVED
JAN 29 1990

Office of the Secretary



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JAN 16 1990

4APT-APB-cdw

1-23 RECEIVED
JAN 22 1990
DER-BAQM

~~CHP~~ FYI
PA

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

RE: Farmland Industries, Inc. (PSD-FL-143)

Dear Mr. Fancy:

This is to acknowledge receipt of your preliminary determination and draft permit for Farmland Industries' proposed sulfuric acid plant, dated December 21, 1989.

We have reviewed this package as requested and concur with your determination.

Thank you for allowing EPA to review this package. If you have any comments please contact Mr. Gregg Worley of my staff at (404) 347-2864.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. Ed Ferking, Farmland

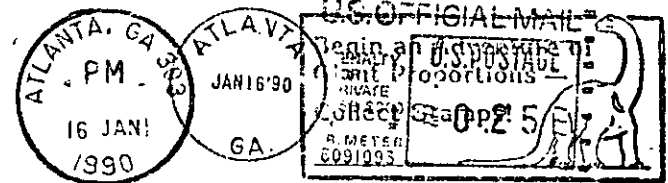
J. Reynolds
B. Andrews
M. Finn
D. Thomas, sub Dist.
CHF/BT

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

AIR-4

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





FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

RECEIVED

JAN 19 1990

DER-BAQM

January 11, 1990


Mr. Bill Thomas
Department of Environmental Regulation
Air Programs
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Bill,

Pursuant to Section 403.815, Florida Statutes and DER Rule 17.103.150 Florida Administrative Code, the Notice of Intent to Issue has been published in a local newspaper. This news paper is generally circulated in the County in which the project is located. A certified copy of the publication is attached.

If you have any questions, please give me a call.

Very truly yours,


C. Gene Meier
Administrator,
Environmental Services

CGM:dr

pc: Merle Farris
Ed Ferking

CGM-02-90