

P 274 007 651

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

★ U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Robert W. Honse, G.M. Farmland Industries	
Street and No. P.O. Box 960	
P.O., State and ZIP Code Bartow, FL 33830	
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 Mailed: 11/20/87 Permit: AC 53-138041	

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

● **SENDER:** Complete items 1, 2, 3 and 4.

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 service(s) requested.

1. Show to whom, date and address of delivery.

2. Restricted Delivery.

3. Article Addressed to: Robert W. Honse
General Manager
Farmland Industries
P.O. Box 960
Bartow, FL 33830

4. 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	Article Number P 274 007 651
--	---------------------------------

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
Linda Thompson

6. Signature - Agent
X

7. Date of Delivery
11/23/87

8. Addressee's Address (ONLY if requested and fee paid)
Callie V. Sewer

file copy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Robert W. Honse, General Manager
Farmland Industries
Post Office Box 960
Bartow, Florida 33830


November 20, 1987

Enclosed is permit No. AC 53-138041 for Farmland Industries to construct a Green Superphosphoric Acid (GSPA) plant located at the permittee's phosphate fertilizer complex. This facility is located near Bartow on State Road 640 in 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.
Deputy Chief
Bureau of Air Quality Management

Copy furnished to:

- W. Thomas, SW Dist.
- J. Koogler, Ph.D., P.E.
- R. E. Pate, Farmland

Final Determination

Farmland Industries
Polk County

Green Super Phosphoric Acid Oxidation Unit
Permit No. AC 53-138041

Florida Department of Environmental Regulation
Central Air Permitting
Bureau of Air Quality Management

November 17, 1987

Final Determination

The Bureau of Air Quality Management completed its review of Farmland's application for a permit to construct a Green Super Phosphoric Acid Oxidation Unit at their Polk County phosphate facility. On October 17, 1987, public notice of the Department's intent to issue the permit was published in the Lakeland Ledger. Copies of the Technical Evaluation and Preliminary Determination were available for public inspection at the Department's offices in Tampa and Tallahassee.

Comments were submitted by the applicant and the Southwest District DER office. The issues and the Department's responses are as follows:

Issue No. 1: Farmland requested a modification to Specific Condition No. 5 reducing the design minimum scrubber pressure drop to 4 inches of water.

The Department is in agreement with this request and the permit will be modified accordingly. If necessary, the minimum pressure drop can be changed again after results are obtained from the compliance test.

Issue No. 2: Farmland requested changes in the test methods specified in Specific Condition No. 8.

These changes were made as requested. NOx test method 7E was not included initially because 40 CFR 60, App. A, Method 7E, paragraph 1.1 states that the method is applicable only to those sources for which it is specified in the NSPS regulations, and Method 7E was not specified for nitric acid plants. Since this source is a one-of-a-kind unit with net emissions below the significant level, the Department agrees that method 7E will be sufficient.

Issue No. 3: The DER Southwest District office requested that a Specific Condition be added to require a maximum 10% opacity limit since the emissions are similar to those from a nitric acid plant.

Farmland has confirmed from their pilot plant data that the opacity will be less than 20% but likely will be more than 10%. Since it is possible that the opacity may be closer to 10% than 20% once fine tuning is completed, the Department is in agreement that a reasonable opacity limitation can be established after the plant starts up and is lined out. Language to this effect was included as Specific Condition No. 10. Since additional time will be needed for this determination, the permit expiration date was changed to October 31, 1988.

Conclusion

The Department intends to issue the permit as modified above.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

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

Permit Number: AC 53-138041
Expiration Date: October 31, 1988
County: Polk
Latitude/Longitude: 27° 50' 37" N
81° 56' 05" W
Project: Green Super Phosphoric
Acid Oxidation Unit

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 a Green Superphosphoric Acid (GSPA) plant located at the permittee's phosphate fertilizer complex near Bartow on State Road 640 in Polk County, Florida. UTM coordinates are 409.5 km E and 3079.5 km N.

Construction shall be in accordance with the attached permit application except as otherwise noted under the Specific Conditions set forth in this permit.

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER form 17-1.202(1), and letter dated August 7, 1987.
2. Southwest District DER letter dated October 16, 1987.
3. Farmland letter dated October 29, 1987, with attached letter from Koogler & Associates dated October 27, 1987.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

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

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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 date(s) 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. Maximum permitted production rate for this plant shall be 27 TPH of Superphosphoric Acid containing 70% P₂O₅. If the production rate exceeds the maximum permitted rate by 10% or more at any time, a compliance test must be conducted after notifying the Department and the results of this test, along with other information listed in Specific Condition No. 8 must be submitted to the Department within 10 working days. Any emissions in excess of those listed in Specific Condition No. 2 shall constitute a violation of this permit. The plant may operate 4,448 hours per year if permitted emissions are not exceeded.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

SPECIFIC CONDITIONS:

2. The emissions from the Green Superphosphoric Acid plant shall not exceed:

Pollutant	Maximum Allowable Emissions	
	lb/hr	T/yr
NOx	40.5	90.0
Fluoride	0.2	0.4

3. Other emissions from the process shall be controlled by sealing and/or venting such emissions to the pollution abatement system.

4. The permittee shall install, calibrate, maintain, operate and record data from flow monitoring devices used to determine total P₂O₅ input to the plant. A daily record on the P₂O₅ input to the plant shall be maintained.

5. The permittee shall measure and record the total pressure drop across the scrubber system. Pressure drop across the scrubber must be at least 4 inches of water during plant operation. These records shall be maintained for 2 years and available for inspection by regulatory agency personnel on request.

6. Construction should commence and be completed within a reasonable time based on the projections in the application.

7. Reasonable precautions to prevent fugitive particulate emissions during modification, such as coating or spraying roads and construction sites used by contractors, shall be taken by the permittee.

8. Before the construction permit expires, the GSPA plant shall be sampled for NOx and fluoride emissions. Test procedures shall be in accordance with EPA reference methods 1, 2, 3, 7 and 7A or 7E, 13A or 13B as published in 40 CFR 60, dated July 1, 1986. The Department shall be notified in writing 15 days or more prior to the compliance test. The test shall be conducted at permitted production capacity or no less than 90% thereof. P₂O₅ input, pH of scrubber water, and pressure drop across the scrubber shall be reported to the Department along with the test data and results.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

SPECIFIC CONDITIONS:

9. The No. 1 and No. 2 Sulfuric Acid Plants shall permanently cease operation prior to the startup of the GSPA plant under the conditions of this permit.

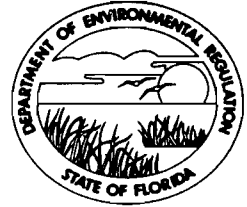
10. Visible emissions shall be limited on the basis of observations made by DER Southwest District staff after the GSPA Oxidation Unit begins its operation.

Issued this 19 day of Nov., 1987

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION



Dale Twachtmann, Secretary



Interoffice Memorandum

For Routing To Other Than The Addressee

To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

for
TO: Dale Twachtmann *for*

THRU: Howard Rhodes *for*

FROM: Clair Fancy *for*

DATE: November 19, 1987

SUBJ: Approval of Farmland Industries
State Construction Permit Number: AC 53-138041

Attached for your approval and signature is a permit for the above mentioned company to construct a Green Superphosphoric Acid (GSPA) plant located at the permittee's phosphate fertilizer complex near Bartow on State Road 640 in Polk County, Florida. Comments were received during the public notice period.

Day 90 after which these permits will be issued by default is December 5, 1987.

The Bureau recommends approval and signature.

CHF/MJ/s

attachment



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

August 12, 1987

DER
AUG 13 1987
BAQM

Mr. Bruce Mitchell
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: Permit Application Green Super Phosphoric
Acid Plant

Dear Mr. Mitchell:

Enclosed please find three (3) additional copies
of the permit application for the Farmland Industries
proposed Green SPA Plant you requested through Koogler
and Associates.

I appreciate your prompt request. If you require other
information, please advise.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. E. Pate", written in black ink.

R. E. Pate
Coordinator
Environmental Affairs

REP:pm
Enclosures 3

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL NUMBER

4396184074

16
=
30

71528M

DATE

8/12/87

AIRBILL NUMBER

4396184074

From (Your Name) R. E. PATE

Your Phone Number (Very Important) (813) 533-1141

To (Recipient's Name) MR. BRUCE MITCHELL

Recipient's Phone Number (Very Important)

Company FARMLAND INDUSTRIES

Department/Floor No.

Company FLA. DEPT. OF ENVIRON REG. BACH

Department/Floor No.

Street Address HWY 640

Exact Street Address (Use of P.O. Boxes or P.O. Zip Codes Will Delay Delivery And Result In Extra Charges.) 2600 BLAIR STONE ROAD

City BARTON State FL ZIP Required For Correct Invoicing 33530

City TALLAHASSEE State FL ZIP Street Address Zip Required 32399-2400

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)

HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS LOCATION: Street Address (See Service Guide or Call 800-238-5355)

PAYMENT Bill Sender Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card Cash

City State

SERVICES CHECK ONLY ONE BOX

DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED

PACKAGES WEIGHT YOUR DECLARED VALUE

ZIP * Zip Code of Street Address Required

1 PRIORITY 1 Overnight Delivery Long Flat Packaging
2 COURIER-PAK Overnight Envelope 12"x 15 1/2"
3 Overnight Box 12W" x 17W" x 3"
4 Overnight Tube 36" x 6" x 6" B. *Declared Value Limit \$100

1 HOLD FOR PICK-UP (Fill in Section H at right)
2 DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge)
4 DANGEROUS GOODS (9-11 and Restricted Air Packages only. Extra charge)
5 CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge. See Item Comparison Section 9)
6 DRY ICE (Use)
7 OTHER SPECIAL SERVICE

1 11
11 11
11 11
Total 11 Total

Emp. No. Date

STANDARD AIR Delivery not later than second business day

8 SATURDAY PICK-UP (Extra charge)

Received At: 1 Regular Stop 2 On-Call Stop 3 Drop Box 4 B.S.C. 5 Station

Cash Received Return Shipment Third Party Ctg. To Del Ctg. To Hold

SERVICE COMMITMENT PRIORITY 1 - Delivery is scheduled every next business morning in most locations. It may take two or more business days if the destination is outside our primary service areas.

9 OTHER SPECIAL SERVICE

Federal Express Corp. Employee No. 31280

Street Address

STANDARD AIR - Delivery is generally next business day or not later than second business day (may take three or more business days if the destination is outside our primary service areas).

10

Date/Time For Federal Express Use 8/12 1642

City State Zip

Sender releases Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

11

Received By: X

Total Charges

Release Signature

12

Date/Time Received

FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Origin Agent Charge

Other

Total Charges

PART #108001
FEC-5751-1000
REVISION DATE
10/86
PRINTED U.S.A. NICH

RECIPIENT'S COPY

Check Sheet

→ P 4/21

Company Name: *Farmland Industries*

Permit Number: *A 453-138 041*

PSD Number:

County: *Folk*

Permit Engineer:

Others involved:

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response
- Other

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit
- Correspondence with:
 - EPA
 - Park Services
 - County
 - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Other

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination
- Other

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services
- Other



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

KA 123-94-07

August 21, 1995

RECEIVED

AUG 23 1995

Bureau of
Air Regulation

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

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

Dear Mr. Fancy:

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

Green SPA Plant, AC53-138041

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

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

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

Annual NO_x testing is not justified for the following reasons:

1. NO_x is an uncontrolled byproduct of a manufacturing process which inherently controls the pollutants regulated under 40 CFR 60, Subpart H (sulfur dioxide and sulfuric acid mist).
2. There is no NO_x emission standard for sulfuric acid plants.
3. The permit allows adjustment of the NO_x emission rate if warranted based on future tests. This provision was included in recognition of Item 1 above. It also reflects the relative unimportance of regulating NO_x on this unit.

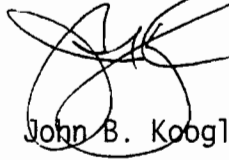
Mr. Clair H. Fancy
Florida Department of
Environmental Protection

August 21, 1995
Page 2

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

Very truly yours,

KOGLER & ASSOCIATES



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

JBK:par

c: Charles Jenkins, Farmland
Gerald Kissel, FDEP Tampa



MEMORANDUM

TO: Marty Costello, FDEP
FROM: Pradeep Raval
DATE: June 2, 1995
SUBJECT: Waiver of 90 Day Time Limit

This is a follow up to our conversation this week regarding waiver of the 90 day limit for Farmland Hydro, L.P.'s application for permit amendments.

As it is anticipated that the pending issues on this subject will be resolved soon, the attached waiver is granted until June 30, 1995.

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

par.
enc.

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

RECEIVED

JUN 2 1995

Bureau of
Air Regulation





Lawton Chiles
Governor

Florida Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Virginia B. Wetherell
Secretary

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) and 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. See Attachment 1

Applicant's Name: Farmland Hydro, L.P.

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above referenced license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 30th day of June 1995.

The undersigned is authorized to make this waiver on behalf of the applicant.



SIGNATURE

NAME (PLEASE TYPE OR PRINT)

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

RECEIVED

JUN 2 1995

ATTACHMENT 1

LIST OF PERMIT AMENDMENTS SUBJECT TO
WAIVER OF THE 90 DAY TIME LIMIT

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Item	Unit/Operation	Construction Permit No.
1.	North MAP/DAP Plant	AC53-210886
2.	Green SPA Plant	AC53-138041
3.	No. 5 SAP	AC53-185490

RECEIVED

JUN 2 1995

Bureau of
Air Regulation





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

KA 123-94-06

February 14, 1995

RECEIVED
MAR 8 1995
Bureau of
Air Regulation

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

Subject: Polk County-AP
Farmland Hydro, L.P.
Permit Amendment Requests

Dear Mr. Linero:

During recent discussions with FDEP staff, the subject of air permit conditions had come up. Based on those discussions, it is our understanding that all emission limitations in current permits must either be based on a standard, or reflect emission limits requested by a permittee to avoid a specific rule applicability (e.g. PSD, etc.). Any emission limit which is not supported by this criteria can be removed from the permit.

It is anticipated that the removal of such emission limitations from current operation permits and source construction permits will facilitate Title V permit application compilation by Farmland as well as the compilation of Title V permit conditions by FDEP. Thus, only valid applicable requirements will remain in the source permits.

Farmland has several air operation (and the preceding construction) permits which contain emission limitations outside of the above FDEP criteria. As a result, we are requesting FDEP to amend the permits tabulated below. A discussion on these permits is provided in the attachments. The attachment number corresponds to the item number in the table below.

In accordance with FDEP protocol, the request for permit amendment is being submitted to the office where the permit was issued. As the source operation permits were issued by FDEP's Tampa office, a request for amendment of those permits is simultaneously being submitted to that office. The amendment request for construction permits issued by the Bureau of Air Regulation (BAR) are being sent to your attention. The permit listing below, however, includes all the permits to be amended so that both the FDEP District and the BAR offices are aware of the scope of the permit amendments

It is requested that the following permits be amended:

Item	Unit/Operation	Operation Permit No.	Construction Permit No.
1.	North MAP/DAP Plant	A053-250142 (1)	AC53-210886 (2)
2.	Green SPA Plant	A053-242141 (1)	AC53-138041 (2)
3.	No. 5 SAP	A053-200485 (1)	AC53-185490 (2)
	Therminol Heater	A053-187834 (3)	None
	Auxiliary Steam Boiler	A053-159758 (3)	None

5% S
NOx limits & testing
PART

NOTES:

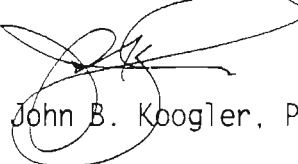
- (1) Operation permit amendment expected from FDEP District office after the construction permit amendment is issued by BAR.
- (2) Construction permit amendment expected from BAR.
- (3) Operation permit amendment expected from FDEP District office.

A check in the amount of \$750 (permit amendments processing fee) is enclosed.

Thank you for your kind assistance. If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOUGLER & ASSOCIATES



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

JBK:par

c: C. Jenkins, Farmland Hydro, L.P.
G. Kissel, FDEP Tampa



ATTACHMENT 1

Unit/Operation : North MAP/DAP Plant

Permit No. : AC53-210886

Amendment Request :

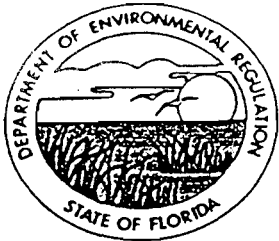
The above referenced permit contains a 0.5% sulfur content limit for No. 2 fuel oil. This sulfur content reflects a typical analysis of No. 2 fuel oil available on the market. To our knowledge, the sulfur content limit in the permit is not based on a regulatory standard, nor does it reflect an emission limitation requested by Farmland to avoid a specific rule applicability (e.g. PSD, etc.).

Therefore, it is requested that the construction permit be amended as follows:

Page 8, Specific Condition No. 15:

FROM: The maximum heat input rate to the dryer shall not exceed 50 MMBtu/hour. Natural gas (max. 0.05 MMCF/hr) shall be burned in the dryer; except when the natural gas supply to the plant is curtailed, then No. 2 fuel oil with a maximum of 0.5% sulfur may be burned for upto 400 hours during any 12 month period.

TO: The maximum heat input rate to the dryer shall not exceed 50 MMBtu/hour. Natural gas (max. 0.05 MMCF/hr) shall be burned in the dryer; except when the natural gas supply to the plant is curtailed, then No. 2 fuel oil may be burned for upto 400 hours during any 12 month period.



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Farmland Hydro, L.P.
P. O. Box 960
Bartow, Florida 33830

Permit Number: AC 53-210886
PSD-FL-186
Expiration Date: January 1, 1994*
County: Polk
Latitude/Longitude: 27°50'37"N
81°56'05"W
Project: North GTSP/MAP/DAP
Granulation Plant Modifications

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 drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Authorization to modify the existing North GTSP/MAP/DAP** Granulation Plant to increase allowable production from 70 to 120 TPH MAP and from from 50 to 100 TPH DAP. The modifications include: installing a new reactor-granulator scrubber system followed by a new BFL scrubber system; a new cooler-chiller; a new venturi-cyclonic scrubber system; a new MAP pipe reactor and granulator; new screens and recycle conveyor; new smaller fans for the screens and mills; relocation of existing screens, elevators, elevator drive, and recycle conveyor in the screen system; new controls for the dryer scrubber and the screen/mill scrubber; relocation of the pipe reactor feed tank system; relocation and modification of the DAP reactor system; relocation of the north fines bin; relocation of the reclaim water tank system; removal of the existing GTSP scrubber systems; and other associated alterations. The plant will discharge air pollutants through the existing MAP/DAP main stack (114,000 acfm/88,000 dscfm/129 ft. elevation/7.5 ft. diameter/108°F) and the new reactor-granulator stack (49,700 acfm/27,000 dscfm/129 ft. elevation/5.5 ft. diameter/178°F). The North MAP/DAP Granulation Plant is located at Farmland Hydro, L.P.'s phosphate fertilizer chemical manufacturing facility on County Road 640 West, near Bartow, Polk County, Florida. The UTM coordinates of this facility are Zone 17, 409.5 km E and 3079.5 km N.

PERMITTEE:
Farmland Hydro, L.P.

Permit Number: AC 53-210886
PSD-FL-186
Expiration Date: January 1, 1994

SPECIFIC CONDITIONS:

- ✓ ~~13.~~ This plant shall not manufacture GTSP. ~~*~~
- ✓ 14. The plant may operate continuously, 8760 hrs/yr.
- ✓ 15. Heat input to the dryer shall not exceed 50 MMBtu/hr. Only natural gas (max. 0.05 MMCF/hr) shall be burned in the dryer; except when the natural gas supply to the plant is curtailed, then No. 2 fuel oil with a maximum of 0.5% sulfur may be burned for up to 400 hrs during any 12 month period.
- ✓ 16. Lignosulphonates (lignin) shall be used when needed to control unconfined dust emissions when handling MAP and DAP product. Defoamers may be added to the 28% P₂O₅ scrubbing liquid.
- ✓ 17. Reasonable precautions for minimizing fugitive emissions of ammonia shall include routine inspection of vessels, piping, and hoses; placing scrubbers in operation prior to feeding ammonia to the process; and prompt repair of any leaks.

Testing Requirements

- ✓ 18. This plant shall be tested at a production rate of 108 to 120 TPH MAP and 90 to 100 TPH DAP within 60 days of commercial production of these products by the modified plant and annually thereafter for particulate matter, fluorides, and visible emissions. It shall also be tested for ammonia on achieving commercial production and prior to the renewal of any permit to operate issued for the modified plant (test every 5 years). The annual test during MAP and DAP production will be waived if that product is not manufactured during that year. All compliance tests shall meet the requirements listed in F.A.C. Rule 17-2.700. The unit shall not operate above the maximum permitted MAP or DAP production rates; except during the time of the compliance tests.
- ✓ 19. Test methods to determine compliance are EPA Method 5 for particulate matter, EPA Method 9 for visible emissions, and EPA 13A or 13B for fluorides. These methods are described in 40 CFR 60, Appendix A (July 1, 1991). Ammonia emissions shall be determined using a variation of the EPA Draft Method, using large impingers with 100 mls of 1.0 normal sulfuric acid in the first three impingers, the last impinger dry and a probe with an external design similar to that used in EPA Method 16, or any other test method agreed to by the Department.

Administrative Requirements

- 20. The Department's Southwest District shall be notified in

ATTACHMENT 2

Unit/Operation : Green Super Phosphoric Acid Plant

Permit No. : AC53-138041

Amendment Request :

The most recent construction permit in our files was issued November 19, 1987. The permit contains nitrogen oxides (NOx) emission limits of 40.5 pounds per hour and 90.0 tons per year. NOx emissions are a by-product of the process. To our knowledge, the emission limitation in the permit is not based on a standard for GSPA, nor does it reflect an emission limitation requested by Farmland to avoid a specific rule applicability (e.g. PSD, etc.).

It is requested that the construction permit be amended as follows:

Page 6, Specific Condition No. 2:

FROM: The emissions from the Green Superphosphoric Acid plant shall not exceed:

Pollutant	Maximum Allowable Emissions	
	pounds/hour	tons/year
NOx	40.5	90.0
Fluoride	0.2	0.4

TO: Emissions of fluorides from the Green Superphosphoric Acid plant shall not exceed 0.2 pounds per hour, or 0.4 tons/year.

Page 6, Specific Condition No. 8:

FROM: Delete the portion of the condition which requires NOx testing.



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

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

Permit Number: AC 53-138041
Expiration Date: October 31, 1988
County: Polk
Latitude/Longitude: 27° 50' 37" N
81° 56' 05" W
Project: Green Super Phosphoric
Acid Oxidation Unit

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 a Green Superphosphoric Acid (GSPA) plant located at the permittee's phosphate fertilizer complex near Bartow on State Road 640 in Polk County, Florida. UTM coordinates are 409.5 km E and 3079.5 km N.

Construction shall be in accordance with the attached permit application except as otherwise noted under the Specific Conditions set forth in this permit.

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER form 17-1.202(1), and letter dated August 7, 1987..
2. Southwest District DER letter dated October 16, 1987.
3. Farmland letter dated October 29, 1987, with attached letter from Koogler & Associates dated October 27, 1987.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

SPECIFIC CONDITIONS:

2) The emissions from the Green Superphosphoric Acid plant shall not exceed:

Del?

Pollutant	Maximum Allowable Emissions	
	lb/hr	T/yr
NOx	40.5	90.0
Fluoride	0.2	0.4

3. Other emissions from the process shall be controlled by sealing and/or venting such emissions to the pollution abatement system.

4. The permittee shall install, calibrate, maintain, operate and record data from flow monitoring devices used to determine total P₂O₅ input to the plant. A daily record on the P₂O₅ input to the plant shall be maintained.

5. The permittee shall measure and record the total pressure drop across the scrubber system. Pressure drop across the scrubber must be at least 4 inches of water during plant operation. These records shall be maintained for 2 years and available for inspection by regulatory agency personnel on request.

6. Construction should commence and be completed within a reasonable time based on the projections in the application.

7. Reasonable precautions to prevent fugitive particulate emissions during modification, such as coating or spraying roads and construction sites used by contractors, shall be taken by the permittee.

Del? 8. Before the construction permit expires, the GSPA plant shall be sampled for NOx and fluoride emissions. Test procedures shall be in accordance with EPA reference methods 1, 2, 3, 7 and 7A or 7E, 13A or 13B as published in 40 CFR 60, dated July 1, 1986. The Department shall be notified in writing 15 days or more prior to the compliance test. The test shall be conducted at permitted production capacity or no less than 90% thereof. P₂O₅ input, pH of scrubber water, and pressure drop across the scrubber shall be reported to the Department along with the test data and results.

Final Determination

Farmland Industries
Polk County

Green Super Phosphoric Acid Oxidation Unit
Permit No. AC 53-138041

Florida Department of Environmental Regulation
Central Air Permitting
Bureau of Air Quality Management

November 17, 1987

Final Determination

The Bureau of Air Quality Management completed its review of Farmland's application for a permit to construct a Green Super Phosphoric Acid Oxidation Unit at their Polk County phosphate facility. On October 17, 1987, public notice of the Department's intent to issue the permit was published in the Lakeland Ledger. Copies of the Technical Evaluation and Preliminary Determination were available for public inspection at the Department's offices in Tampa and Tallahassee.

Comments were submitted by the applicant and the Southwest District DER office. The issues and the Department's responses are as follows:

Issue No. 1: Farmland requested a modification to Specific Condition No. 5 reducing the design minimum scrubber pressure drop to 4 inches of water.

The Department is in agreement with this request and the permit will be modified accordingly. If necessary, the minimum pressure drop can be changed again after results are obtained from the compliance test.

Issue No. 2: Farmland requested changes in the test methods specified in Specific Condition No. 8.

→ These changes were made as requested. NOx test method 7E was not included initially because 40 CFR 60, App. A, Method 7E, paragraph 1.1 states that the method is applicable only to those sources for which it is specified in the NSPS regulations, and Method 7E was not specified for nitric acid plants. Since this source is a one-of-a-kind unit with net emissions below the significant level, the Department agrees that method 7E will be sufficient.

Issue No. 3: The DER Southwest District office requested that a Specific Condition be added to require a maximum 10% opacity limit since the emissions are similar to those from a nitric acid plant.

Farmland has confirmed from their pilot plant data that the opacity will be less than 20% but likely will be more than 10%. Since it is possible that the opacity may be closer to 10% than 20% once fine tuning is completed, the Department is in agreement that a reasonable opacity limitation can be established after the plant starts up and is lined out. Language to this effect was included as Specific Condition No. 10. Since additional time will be needed for this determination, the permit expiration date was changed to October 31, 1988.

ATTACHMENT 3

Unit/Operation : No. 5 Sulfuric Acid Plant

Permit No. : AC53-185490

Amendment Request :

The above referenced permit contains emission limitations for nitrogen oxides. To our knowledge, this limitation in the permit is not based on a standard, nor does it reflect an emission limitation requested by Farmland to avoid a specific rule applicability. In fact FDEP's PSD review in 1989 (PSD-FL-143) acknowledged that NOx is a by-product of the sulfuric acid manufacturing process and there is no method of control to represent Best Available Control Technology for it. It is interesting to note that the PSD review at that time was triggered based on conservative projections of potential emissions from the project. Subsequent testing of the project, as built, have shown that a PSD review for NOx would not have been required if representative plant performance information was available during preconstruction review.

Based on the above discussion it is requested that the construction permit be amended as follows:

Page 6, Specific Condition No. 5:

Delete this condition regarding NOx emissions.

Page 6, Specific Condition No. 8:

Delete the portion of the condition which requires NOx testing.





Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

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.

BEST AVAILABLE COPY

PERMITTEE:
Armland Industries, Inc.

Permit Number: AC 53-185490
PSD-FL-143A
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 *~ 100% (100% of plant)*
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

Technical Evaluation
and
Preliminary 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

November 15, 1990

III. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The facility is located in an area classified as attainment for each of the regulated air pollutants. The proposed major source is subject to the preconstruction review requirements of F.A.C. Rule 17-2.500, Prevention of Significant Deterioration (PSD). The proposed increases in SO₂ and acid mist emissions exceed significant levels set forth in Table 500-2 of F.A.C. Rule 17-2.500. Preconstruction review must include a determination of best available control technology (BACT), good-engineering practice stack height, ambient impact analysis, impact on soils, vegetation, and visibility. F.A.C. Rules 17-2.660, Table 660-1, Section 60.80, and 17-2.700, Table 700-1, apply to this new major source. Emissions will be limited by the federal new source performance standards for sulfur dioxide, acid mist and visible emissions, and the previous BACT determination for NO_x (PSD-FL-143).

IV. Source Impact Analysis

A. Ambient Air Analysis

Analysis of ambient air impact from the proposed source generally involves assessment of existing air quality, a PSD increment analysis, and an ambient air quality standards analysis. Existing air quality must be established by monitoring data if the emissions from the new source will have an impact equal to or greater than that listed in F.A.C. Rule 17-2.500, Table 500-3, De Minimus Ambient Impacts. However, if it is shown, as here, that the net increase in ambient concentrations of applicable pollutants will be less than the de minimus concentrations listed in Table 500-3, the source is exempt from ambient monitoring as provided by F.A.C. Rule 17-2.500(3)(e). The following table summarizes results of air quality analysis for the proposed project:

	Ambient Impacts (ug/m ³)	Signif. Impact	De Minimus Impact
Sulfur Dioxide			
3-hr	0.01	25.0	N/A
24-hr	(less than 0.01)	5.0	13.0
Annual	(less than 0)	1.0	N/A
Acid Mist (24-hr)	5.0	N/A	5.0*

*No de minimus or significant impact levels have been established for acid mist. This figure was calculated based on adjusted threshold limit value (TLV) in order to arrive at an acceptable ambient level (AAL).

Technical Evaluation
and
Preliminary 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

December 21, 1989

	Air Pollutant (tons/yr)			GSPA	Net Increase	Signif. Increase
	1	2	5			
SO ₂						
Present	700	700				
Proposed	(700)	(700)	1460		60	40
Acid Mist						
Present	7.5	7.5				
Proposed	(7.5)	(7.5)	54.8		39.8	7
NO _x						
Present	25.2	25.2*		64.8		
Proposed	(25.2)	(25.2)	(43.4)	64.8	57.8	40

*Permanently shut down in 1985 but included for contemporaneous emission changes per F.A.C. Rule 17-2.500(2)(e)3.

III. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The facility is located in an area classified as attainment for each of the regulated air pollutants. The proposed major source is subject to the preconstruction review requirements of F.A.C. Rule 17-2.500, Prevention of Significant Deterioration (PSD). The proposed increases in emissions exceed significant levels set forth in Table 500-2 of F.A.C. Rule 17-2.500. Preconstruction review must include a determination of best available control technology (BACT), good-engineering practice stack height, ambient impact analysis, impact on soils, vegetation, and visibility. F.A.C. Rules 17-2.660, Table 660-1, Section 60.80, and 17-2.700, Table 700-1, apply to this new major source. Emissions will be limited by the federal new source performance standards for sulfur dioxide, acid mist and visible emissions, and the BACT determination for NO_x.

IV. Source Impact Analysis

A. Ambient Air Analysis

Analysis of ambient air impact from the proposed source generally involves assessment of existing air quality, a PSD increment analysis, and an ambient air quality standards analysis. Existing air quality must be established by monitoring data if the emissions from the new source will have an impact equal to or greater than that listed in F.A.C. Rule 17-2.500, Table 500-3, De Minimus Ambient Impacts. However, if it is shown, as here, that the net increase in ambient concentrations of applicable pollutants will be less than the de minimus concentrations listed in Table 500-3, the source is exempt from ambient monitoring as provided by F.A.C. Rule 17-2.500(3)(e). The following table summarizes results of air quality analysis for the proposed project:

RECEIVED
JUN 27 1995
Bureau of
Air Regulation

MEMORANDUM

TO: Marty Costello, FDEP
FROM: Pradeep Raval
DATE: June 22, 1995
SUBJECT: Extension of 90 Day Time Limit

This is a follow up to our conversation this week regarding waiver of the 90 day limit for Farmland Hydro, L.P.'s application for permit amendments.

As it is anticipated that the pending issues on this subject will be resolved soon, the attached waiver extension is granted until August 30, 1995.

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

par.
enc.

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





Florida Department of Environmental Protection

Lawton Chiles
Governor

Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256-7577

Virginia B. Wetherell
Secretary

WAIVER OF 90 DAY TIME LIMIT UNDER SECTIONS 120.60(2) and 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. See Attachment 1

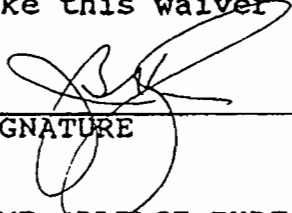
Applicant's Name: Farmland Hydro, L.P.

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above referenced license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida..Department of Environmental Regulation.

This waiver shall expire on the 30th day of August 1995.

The undersigned is authorized to make this waiver on behalf of the applicant.



SIGNATURE

NAME (PLEASE TYPE OR PRINT)

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

ATTACHMENT 1

LIST OF PERMIT AMENDMENTS SUBJECT TO
WAIVER OF THE 90 DAY TIME LIMIT

FARMLAND HYDRO, L.P.
POLK COUNTY, FLORIDA

Item	Unit/Operation	Construction Permit No.
1.	North MAP/DAP Plant	AC53-210886
2.	Green SPA Plant *	AC53-138041 *
3.	No. 5 SAP	AC53-185490

* Farmland will amend this permit if required by FDEP.





Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garrity, Deputy Assistant Secretary

July 30, 1990

Mr. Gene Meier
Farmland Industries
Post Office Box 960
Bartow, FL 33803

RE: Sulfuric Acid Plant No. 1, A053-99016

Dear Mr. Meier:

The referenced plant's air operation permit expired on March 1, 1990. Please note that the Department's letter dated July 13, 1990 merely changes the plant's shutdown date. The continued operation of this plant will require that the referenced permit be renewed.

Please be advised that the operation of a non-exempt source of air pollution without a currently valid permit is a violation of Rules 17-2.210 and 17-4.030, Florida Administrative Code. The Department reserves the right to initiate enforcement actions for violation of the Rules.

If you have any questions, please call Viet Ta at (813) 623-5561, extension 342.

Sincerely,

W.C. Thomas, P.E.
District Air Program
Administrator

WCT/js

cc: Clair Fancy, DARM
Harry Kerns
C.S. Lee
David Thulman, OGC

Department of Environmental Regulation
Routing and Transmittal Slip

To: (Name, Office, Location)

- 1. *Clair Fajury*
- 2. ~~*ARM*~~
- 3. ~~*TT*~~
- 4. *Patty*

Remarks:

RECEIVED
AUG 8 1990
DER-BAQM

From:

Date

Phone

P 256 396 116

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

Sender	Robert Horse
Street and No.	Fairland Ind
P.O. State and ZIP Code	P.O. Box 960
Postage	Bartow, FL
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	7-16-90

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
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 service(s) requested.

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

3. Article Addressed to: Robert Horse, Gen. Mgr. Fairland Industries P.O. BOX 960 Bartow, FL 33603	4. Article Number P 256 396 116 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
5. Signature - Address X Jean Hicks	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 7-20-90	



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

July 13, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert Honse, General Manager
Farmland Industries
Post Office Box 960
Bartow, Florida 33603

Dear Mr. Honse:

The Department received Farmland's July 5 letter requesting an extension of the shutdown date for the No. 1 Sulfuric Acid Plant. The request is acceptable and the following shall be changed:

Specific Condition No. 9:

FROM: The No. 1 Sulfuric Acid Plant shall permanently cease operation after September 30, 1990. The No. 2 Sulfuric Acid Plant shall permanently cease operation prior to the startup of the GSPA plant.

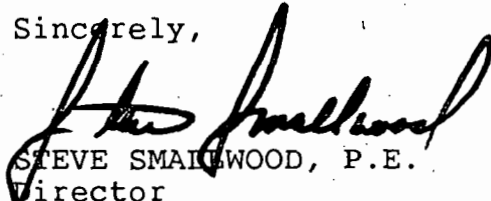
TO: The No. 1 Sulfuric Acid Plant shall permanently cease operation after January 1, 1991. The No. 2 Sulfuric Acid Plant shall permanently cease operation prior to the startup of the GSPA plant.

Attachment to be Incorporated:

12. Farmland's letter dated July 5, 1990.

This letter must be attached to the above construction permit AC 53-138041 and shall become Attachment No. 13 to the permit.

Sincerely,



STEVE SMALLWOOD, P.E.

Director
Division of Air Resources
Management

SS/JR/plm

c: W. Thomas, SW District
G. Meier, Farmland



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: Steve Smallwood
FROM: Clair Fancy *CF*
DATE: July 13, 1990
SUBJ: Amendment to Construction Permit No. AC 53-138041
Farmland Industries, Inc.

Attached for your approval and signature is a letter modifying the above permit by extending the shutdown date for Farmland's No. 1 Sulfuric Acid Plant.

The Bureau recommends approval of this amendment.

CF/JR/plm

Attachment

*OK - Hankyow
js*



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: Clair Fancy
FROM: Bill Thomas *[Signature]*
DATE: July 13, 1990
SUBJECT: Farmland Industries, Inc.
Permit No. AC53-138041

The Southwest District has no objection to the time extension requested in Mr. C. G. Meier's letter of July 5, 1990, which is attached.

WCT/js

Attachment

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clair Fayser

Initial

Date

2.

DARM

Initial

Date

3.

TT

Initial

Date

4.

Bruce 7/20

Initial

Date

REMARKS:

John Byrne lde

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

RECEIVED

JUL 16 1990

DER-BAQM

FROM:

Bill Thomas

DATE

7/13/90

PHONE

PM
7-5-90
Bartow, FL

CM: P 387 959 278

File Co, 17



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

July 5, 1990

RECEIVED

JUL 10 1990

DER EAL

Mr. Clair Fancy, P.E.
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Permit No. AC53-138041

Dear Mr. Fancy:

As a condition to the above referenced construction permit to build a Green Super Acid Plant, Farmland agreed to cease operation of our No. 1 Sulfuric Acid Plant on September 30, 1990. As you know, we are in the process of building a new Cogeneration Sulfuric Acid Plant that is scheduled to be in operation in mid-September 1990. Although we are on target, and believe the construction will be completed and we will be operating, there are still some unknown factors. This is the rainy season and we have lost a few days already. Therefore, we are requesting that we be allowed to continue to operate the No. 1 Sulfuric Acid Plant until the new cogeneration plant is on line or until January 1, 1991, whichever comes first.

Thank you for your consideration on this matter, and if you have any questions please give me a call.

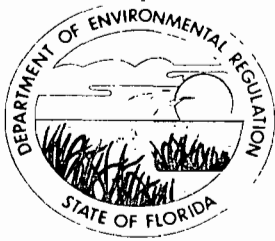
Very truly yours,

C. G. Meier
Administrator,
Environmental Services

CGM:pm

cc:

Bill Thomas SW Dist } 7/11/90 RM
John Reynolds -
CHF/BA



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachmann, Secretary

John Shearer, Assistant Secretary

September 23, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert Honse
General Manager
Farmland Industries
Post Office Box 960
Bartow, Florida 33603

Dear Mr. Honse:

The Department received Farmland's request for an extension of the shutdown date for the No. 1 Sulfuric Acid Plant and the associated reduction in allowable NO_x emissions from the Green Superphosphoric Acid Plant. The request is acceptable and the following shall be changed:

Specific Condition 2

Present:

The emissions from the Green Superphosphoric Acid Plant shall not exceed:

NO _x	40.5 lb/hr	90.0 T/yr
Fluoride	0.2 lb/hr	0.4 T/yr

Amended:

The emissions from the Green Superphosphoric Acid Plant shall not exceed:

NO _x	29.1 lb/hr	64.8 T/yr
Fluoride	0.2 lb/hr	0.4 T/yr

Specific Condition 9

Present:

The No.1 Sulfuric Acid Plant shall permanently cease operation after August 23, 1988. The No. 2 Sulfuric Acid Plant shall permanently cease operation prior to the startup of the GSPA plant.

Mr. Robert Honse
September 23, 1988
Page Two

Amended:

The No. 1 Sulfuric Acid Plant shall permanently cease operation after September 30, 1990. The No. 2 Sulfuric Acid Plant shall permanently cease operation prior to the startup of the GSPA plant.

Attachments to be Incorporated:

- No. 8 - Farmland's letter dated July 11, 1988
- No. 9 - DER's letter dated August 11, 1988
- No. 10 - Farmland's letter dated August 30, 1988

This letter must be attached to your construction permit, AC 53-138041, and shall become a part of the permit.

Sincerely,



Dale Twachtmann
Secretary

DT/mch

cc: W. Thomas, SW District
G. Meier, Farmland



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: Dale Twachtmann

for FROM: Steve Smallwood *ctj*

DATE: September 23, 1988

SUBJ: Modification of Permit Conditions

Attached for your approval and signature is a letter prepared by Central Air Permitting that will extend the shutdown date for Farmland's Sulfuric Acid Plant No. 1 while reducing allowable NO_x emissions from their Green Superphosphoric Acid (GSPA) Plant. The company agreed to accept tighter NO_x limits for their GSPA plant to offset the NO_x emissions from extended operation of their No. 1 Sulfuric Acid Plant. Since this is a ton-for-ton emissions tradeoff, I recommend that the permit modification be approved.

SS/mch

Attachment

PM
8-31-88
Bartow, FL

file copy



FARMLAND INDUSTRIES, INC

post office box 960 / bartow, florida 33830

August 30, 1988

RECEIVED
SEP 2 1988
DER-BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Permit AC53-138041

Dear Mr. Fancy,

In reference to your letter of August 11, 1988 Farmland agrees to reduce the NOx level of the Green Super Acid Plant. We request that permit AC53-138041 be changed from a maximum of 90 tons per year of NOx to 64.8 tons per year.

Thank you very much for your help in granting these changes that will allow us to continue to operate our No. 1 Sulfuric Acid Plant.

If you have any questions please give me a call.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Gene Meier".

C. Gene Meier
Administrator
Environmental Services

CGM: dr

cc: Bob Honse
Bob Thomas - S.W. District

*copied: John Reynolds
CHF/BT*

CGM-35-88

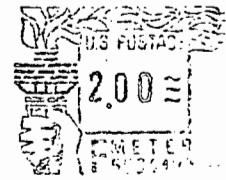


FARMLAND INDUSTRIES, INC.

P. O. BOX 960
BARTOW, FLORIDA 33830



8888
8888
8888
8888



Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

P 274 007 445

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

* U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Mr. Robert Honse, Farmland	
Street and No. Ind. P. O. Box 960	
P.O., State and ZIP Code Bartow, FL 33603	
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 Mailed: 8-30-88 Permit: AC 53-138041	

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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 service(s) requested.

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

3. Article Addressed to: Mr. Robert Honse, General Mgr. Farmland Industries P. O. Box 960 Bartow, FL 33603	4. Article Number P 274 007 445 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
Always obtain signature of addressee or agent and DATE DELIVERED.	

5. Signature - Addressee <i>Linda Thompson</i>	8. Addressee's Address (ONLY if requested and fee paid) <i>Callie</i> <i>X 960</i>
6. Signature - Agent <i>X</i>	
7. Date of Delivery <i>7/6/88</i>	



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

August 26, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Robert Honse, General Manager
Farmland Industries
Post Office Box 960
Bartow, Florida 33603

Dear Mr. Honse:

The Department received Farmland's request for an extension of the expiration date for the construction permit referenced below. The request is acceptable and the following shall be changed:

Project: AC 53-138041

From: October 31, 1988

To: January 31, 1989

Attachment to be Incorporated:

Letter from Farmland Industries, Inc., dated August 5, 1988, requesting a change in the expiration date.

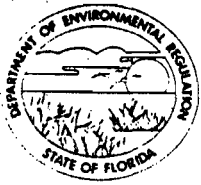
This letter must be attached to your construction permit AC 53-138041 and shall become a part of that permit.

Sincerely,


Dale Twachtmann
Secretary

DT/ks

cc: W. Thomas, SW District
G. Meier, Farmland



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

RECEIVED
AUG 25 1988

TO: Dale Twachtmann
FROM: Steve Smallwood *JS*
SUBJ: Extension of Permit
DATE: August 24, 1988

Office of the Secretary

Attached for your approval and signature is a letter extending the expiration date of Farmland's permit for their Green Superphosphoric Acid Plant. The company needs the extension to complete their compliance testing.

I recommend your approval and signature.

SS/JR/s

attachment



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

RECEIVED

AUG 8 1988

DER-BAQM

August 5, 1988

Mr. Clair Fancy
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: AC53-138041

Dear Mr. Fancy,

Due to the lack of super acid production during the off-season summer months, we have not been able to conduct environmental tests on the new Green Super Acid unit to our satisfaction. Production of Green SPA should increase in the middle of September and should continue into the first part of 1989. We are requesting a three (3) month extension on our construction permit to allow additional environmental testing to be completed. Our current permit expires on October 31, 1988. If you could extend the construction permit, for three (3) months, this will give us sufficient time to complete all our test work and compliance test for an operating permit.

Thank you very much for your consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gene Meier", with a long horizontal flourish extending to the right.

Gene Meier
Administrator,
Environmental Services

CGM: dr

cc: Bob Honse

CGM-30-88



FARMLAND INDUSTRIES, INC.

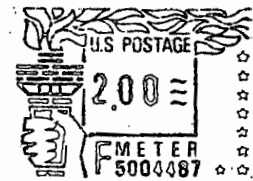
P. O. BOX 960
BARTOW, FLORIDA 33830

CERTIFIED

P 967 851 693

MAIL

0000
0000
0000
0000



Mr. Clair Fancy
Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

FII-5430 (10/79)

RECEIVED

AUG 11 1988

11/11/88

11/11/88

P 274 007 434

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

* U.S.G.P.O. 1985-480-794

Sent to Mr. Gene Meier, Farmland Ind.	
Street and No. P. O. Box 960	
P.O., State and ZIP Code Bartow, FL 33803	
Postage	5
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	5
Postmark or Date Mailed: 8-17-88 Permit: AC 53-138041	

PS Form 3800, June 1985

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
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 service(s) requested.

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

3. Article Addressed to: Mr. Gene Meier Farmland Industries Post Office Box 960 Bartow, Florida 33803	4. Article Number P 274 007 434
	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
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature — Addressee <i>Linda Thompson</i>	8. Addressee's Address (ONLY if requested and fee paid) <i>Called Service X9800</i>
6. Signature — Agent X	
7. Date of Delivery <i>8/19/88</i>	

PS Form 3811, Mar. 1987 * U.S.G.P.O. 1987-178-268 **DOMESTIC RETURN RECEIPT**



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

August 11, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gene Meier
Farmland Industries
Post Office Box 960
Bartow, Florida 33803

Dear Mr. Meier:

This is in reply to Farmland's July 11 letter requesting an extended shutdown date for the No. 1 Sulfuric Acid Plant. The Bureau would not oppose the extension provided that Farmland agrees to a ton for ton reduction in allowable NO_x emissions from the Green Super Phosphoric Acid (GSPA) plant. We believe this is reasonable since the GSPA permit involved offsets from shutting down the sulfuric acid units. Farmland should submit a written request for modification of permit AC 53-138041 (25.2 TPY reduction in allowable NO_x emissions from the GSPA plant).

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/JR/plm

cc: B. Thomas - SW District

**FARMLAND INDUSTRIES, INC.**

post office box 960 / bartow, florida 33830

RECEIVED**JUL 13 1988**

July 11, 1988

DER-BAQM

Mr. Clair Fancy, P.E.
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Permit No. AC53-138041

Dear Mr. Fancy,

By letter of January 28, 1988 on behalf of Farmland Industries, I requested a variance from Specific Condition 9 in the Green Bay facility Green Super Phosphoric Acid (GSPA) permit referenced above. This request was based on improved fertilizer sales above Farmland projections and the unavailability of sulfuric acid at reasonable prices to provide the required fertilizer.

By letter of March 8, 1988 you approved Farmland's request to start-up and operate it's Sulfuric Acid Plant (SAD) No. 1 in lieu of Permit Specific Condition No. 9, for a period of six (6) months. This permission has been very helpful in allowing Farmland to meet it's fertilizer obligations and we are appreciative. However, we again find that fertilizer requirements will exceed our productive capacity unless we are allowed to continue to produce sulfuric acid with the No. 1 Sulfuric Acid Plant.

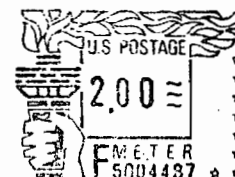
Farmland now requests you consider allowing it to continue operating the SAD No. 1 Plant until September 30, 1990. By this date we expect to have a new Co-generation Sulfuric Acid Plant, fully permitted under new source standards and ready to go on line. The SAD No. 2 Plant would remain in-operative and both plants would be de-commissioned either prior to or following construction of the new plant.

It is worthy of note that preliminary testing of the GSPA plant have shown emission levels of NOx to be about 1/2 the levels Farmland predicted at the requested production rate for this facility. Had we been able to predict emissions more accurately for this unique installation it would have been unnecessary to yield the right to operate the SAD No. 1 Plant.



FARMLAND INDUSTRIES, INC.

P. O. BOX 960
BARTOW, FLORIDA 33830



Mr. Clair Fancy
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400



Mr. Clair Fancy
Department of Environmental Regulation
July 11, 1988
Page 2

We therefore request your authority to continue to operate the Sulfuric Acid Plant No. 1, not to exceed September 30, 1990 and suggest that actual NOx and SO2 levels will not exceed those presently permitted for these facilities.

If you require other information or assurances, please let Mr. Gene Meier or myself know at the earliest time and we will make every effort to provide them. Your earliest consideration will be appreciated.

Sincerely,



Ed Pate
Coordinator,
Environmental Affairs

REP: dr

xc: Mr. Bob Hense
Mr. Gene Meier
Mr. Bill Thomas, DEAR Tampa District
Mr. Bill Thomas, DEAR Tallahassee

Copied: John Reynolds }
CHFIBT } 7.13.88 mo

EP-47-88

P 274 010 429

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

* U.S.G.P.O. 1985-480-794
PS Form 3800, June 1985

Robert Honse, Gen. Mgr.	
Farmland Industries	
Street and No. P.O. Box 960	
P.O. State and ZIP Code Bartow, FL 33803	
Postage	S
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	S
Postmark or Date Mailed: 03/10/88 Permit: AC 53-138041	

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

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 service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to: Mr. Robert Honse General Manager Farmland Industries P.O. 960 Bartow, FL 33803	4. Article Number P274 010 429
	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
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee <i>Linda Thompson</i>	8. Addressee's Address (ONLY if requested and fee paid) <i>Caller Service X 9000</i>
6. Signature - Agent X	
7. Date of Delivery <i>3-14-88</i>	

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

March 8, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert Honse
General Manager
Farmland Industries
Post Office Box 960
Bartow, Florida 33803

Dear Mr. Honse:

The Department will postpone until August 23, 1988, the permanent shutdown requirements applicable to Farmland's Sulfuric Acid Plant No. 1 under permit AC 53-138041. The amendment is as follows:

Present: Specific Condition 9: The No. 1 and No. 2 Sulfuric Acid Plants shall permanently cease operation prior to the startup of the GSPA plant under the conditions of this permit.

Amended: Specific Condition 9: The No. 1 Sulfuric Acid Plant shall permanently cease operation after August 23, 1988. The No. 2 Sulfuric Acid Plant shall permanently cease operation prior to the startup of the GSPA plant.

Farmland's letter of January 28, 1988, becomes Attachment No. 4 of permit AC 53-138041 while this letter becomes Attachment No. 5.

Sincerely,

Dale Twachtmann
Secretary

DT/JR/ss

cc: W. Thomas - SW District
J. Koogler - Consultant
R. E. Pate - Farmland



Interoffice Memorandum

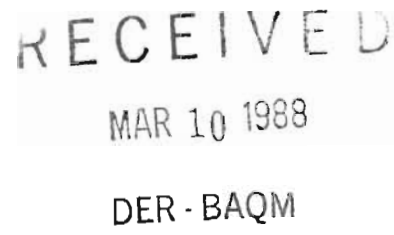
For Routing To Other Than The Addressee	
To: <i>Claw</i>	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

TO: Dale Twachtmann
FROM: Howard L. Rhodes *HLR*
SUBJECT: Modification of Permit Condition
DATE: March 8, 1988



Attached for your approval and signature is a letter prepared by Central Air Permitting that will amend the shutdown timetable for Farmland's Sulfuric Acid Plant No. 1. Farmland claims hardship in buying acid due to a recent shift in supply and demand. Since the ambient air standard will not be violated by delaying the scheduled shutdown for six months, I recommend that the permit amendment be approved.

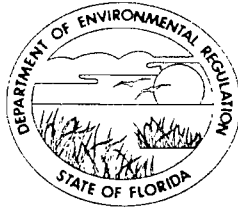
HLR/aqm/jr
Attachment



BEST AVAILABLE COPY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

February 22, 1988

Mr. Robert W. Honse
General Manager
Farmland Industries, Inc.
Post Office Box 960
Bartow, Florida 33830

Dear Mr. Honse:

In accordance with Section 403.201, Florida Statutes, the Department intends to grant a six-month variance from the permanent shutdown requirements applicable to Sulfuric Acid Plant I under permit AQ 53-138041. This proposed variance is based on Farmland's written request dated January 28, 1988, pointing out hardship in procurement of acid.

Enclosed is a Notice of Proposed Agency Action and the Intent to Issue Variance. Please publish the Notice once in a newspaper of general circulation in your area and provide proof of publication to this office.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/JR/s

cc: W. Thomas
J. Koogler
R. E. Pate

State of Florida
Department of Environmental Regulation
Notice of Intent

Farmland Industries, Inc., has requested a variance in order to operate Sulfuric Acid Plant I at its Bartow facility for a period not to exceed six months from its startup. The company claims hardship in procuring sulfuric acid due to a sudden upturn in demand for fertilizer products.

The Department of Environmental Regulation gives notice of its intent to issue a variance from the permanent shutdown requirement allowing operation of Sulfuric Acid Plant I for a period not to exceed six months.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The petition for variance is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southwest District
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the department's final determination.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Variance by:

Farmland Industries, Inc.
P. O. Box 960
Bartow, Florida 33830

INTENT TO ISSUE VARIANCE

The Department of Environmental Regulation, pursuant to Section 403.201, Florida Statutes, hereby gives notice of its Intent to Issue a Variance from the permanent shutdown requirement of Permit No. AC 53-138041 allowing operation of Sulfuric Acid Plant I at Farmland's Bartow facility for a period not to exceed six months from its startup. The Department is issuing this Intent to Issue Variance because of unforeseen hardship in procuring acid and because the six-month operation of Sulfuric Acid Plant I will not cause the ambient NO_x concentration to rise substantially above the current level nor will the allowable SO₂ increment be exceeded.

On January 28, 1988, Farmland petitioned the Department of Environmental Regulation for a variance from the emission offsets condition of their permit which required that Sulfuric Acid Plant I be permanently shut down. Information submitted in Farmland's written request shows hardship in procuring acid due to a sudden unforeseen increase in demand for fertilizer products. The six month operation of the sulfuric acid plant will not have a significant impact on the environment and the operation will comply with all applicable federal, state, and local air pollution regulations.

Persons whose substantial interests are affected by the above proposed agency action have a right, pursuant to Section 120.57, F.S., to petition for an administrative determination (hearing) on the proposed action. The Petition must conform to the requirements of Chapters 17-103 and 28-5, FAC, and must be filed (received) with the Division of Administrative Hearings, The Oakland Building, 2009 Apalachee Parkway, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, F.S.

BEST AVAILABLE COPY

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Persons whose substantial interests will be affected by any decision of the Department has the right to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, FAC, at least five (5) days before the final hearing and be filed with the Hearing Officer at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32399-2400. Failure to Petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management

Copies furnished to:

W. Thomas, SW District
J. Koogler, P.E.
R. E. Pate, Farmland

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: October 31, 1988

SPECIFIC CONDITIONS:

→ 9. The No. 1 and No. 2 Sulfuric Acid Plants shall permanently cease operation prior to the startup of the GSPA plant under the conditions of this permit.

10. Visible emissions shall be limited on the basis of observations made by DER Southwest District staff after the GSPA Oxidation Unit begins its operation.

Issued this 19 day of Nov., 1987

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

for Howard L. Rhodes

Dale Twachtmann, Secretary

28 Jan. 1988
Bartow, FL

File Copy

**FARMLAND INDUSTRIES, INC DER**

post office box 960 / bartow, florida 33830

FEB 1

BAQM

January 28, 1988

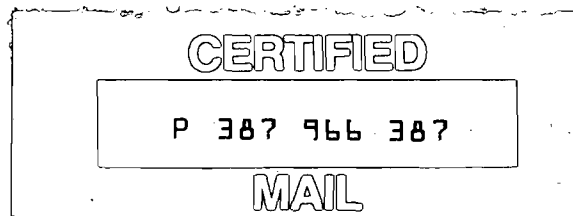
Mr. John Reynolds
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Permit AC53-138041

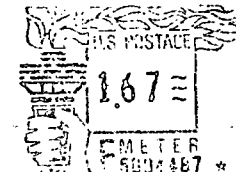
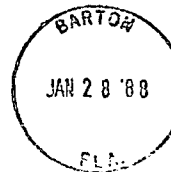
Dear Mr. Reynolds,

On November 20, 1987 the referenced permit was issued by the Department to Farmland Industries for the purpose of constructing a Green Super Phosphoric Acid Oxidation unit at Farmland's Green Bay plant. In it's application for the permit Farmland proposed to permanently shut down two sulfuric acid plants and claimed NOx off-sets of 50.4 tons per year. In order to assure De Minimus Ambient air impacts Farmland also proposed to limit operating hours to 4448 hours per year. The extraordinary concessions were proposed by Farmland for several reasons: (a) they were consistent with the operating plans for the Green Bay Plant at that point in time; (b) the costs of maintaining the sulfuric plants at operable levels was not considered equitable and; (c) it was desirable from environmental and permitting standpoints to achieve an emissions increase which was less than a significant level.

Phosphate business conditions have improved considerably since the submittal of the permit application. At the time of data submittal, Farmland was able to purchase sulfuric acid in large quantities at prices that were favorable to producing this acid on site. With the improvement of fertilizer sales the outside market for sulfuric acid purchase has "dried-up" to the point we are only able to purchase sulfuric at premium prices and only then with difficulty in procurement. The current need is that Farmland be able to run one of the two committed sulfuric acid plants for a period not to exceed six (6) months in order to supply adequate sulfuric acid for the production of phosphate fertilizer to meet the requirements of it's farmer owners.



5918
8111
9111
1111



FARMLAND INDUSTRIES, INC.

P. O. BOX 960
BARTOW, FLORIDA 33830

Mr. John Reynolds
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

~~2-1-88~~
FYI Sounds
like Estech to me
(4)

FII-5430 (10/79)



Mr. John Reynolds
Department of Environmental Regulation
January 28, 1988 - Page 2

Both of the off-set committed sulfuric acid plants have currently valid operating permits and are meeting the permit requirements for emission limitations. However, Specific Condition 9 of the Green Super Acid Plant (GSPA) construction permit requires that both plants permanently cease operation prior to start-up of the GSPA plant. Farmland requests a variance of this condition to permit operation of the Sulfuric Acid Plant I to begin immediately and to extend for a period not to exceed six (6) months from the start-up. Initial start-up of the GSPA plant is expected to begin in early February.

Your consideration and assistance with this matter is appreciated. If I may provide additional information or assistance please give me a call.

Sincerely,



Ed Pate
Coordinator,
Environmental Affairs

REP: dr

EP-06-88

Copied: C #/BT
John Reynolds } 2.1.88

28 Jan 1988
Bartow, FL

copy



FARMLAND INDUSTRIES, INC DER

post office box 960 / bartow, florida 33830

FEB 1

BAQM

January 28, 1988

Mr. John Reynolds
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Permit AC53-138041

Dear Mr. Reynolds,

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Mr. John Reynolds
Department of Environmental Regulation
January 28, 1988 - Page 2

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Sincerely,



Ed Pate
Coordinator,
Environmental Affairs

REP: dr

EP-06-88

Copied: C #F/BT
John Reynolds } 2-1-88



PM
10/29/87
Bartow, FL

Full Copy



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

DER

OCT 30 1987

BAQM

October 29, 1987

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

Re: Notice of Proposal Agency Action
Permit Application - Farmland
Industries - DER File No. AC53-138041

Dear Mr. Thomas,

We are in the receipt of the Department's proposed agency action on permit application and the draft construction permit for a Green Super Phosphoric Acid Oxidation unit. Upon review of this draft permit we offer the following comments for your consideration:

Specific Condition 5. requires a pressure drop across the scrubber of at least 12 inches of water during plant operation. Engineering developments have produced a scrubber with a design minimum pressure drop of 4 inches of water with an equivalent scrubbing efficiency and significant energy savings. It is desirable to have the most efficient plant available from all aspects including energy. We therefore request a minimum pressure drop of 4 inches of water.

Specific Condition 8. limits test procedures for sampling fluoride and NOx emissions to Methods 1, 2, 3, 7 and 7A. Both EPA and the DER Tampa District office recognizes Method 7E as a viable alternative for determination of NOx emissions. Much of the Farmland test work on the pilot plant was done using Method 7E and we believe it to be at least equivalent to methods 7 and 7A. Farmland requests the option of using either of these approved methods. Additionally we would like to use EPA approved methods 13A and 13B for fluoride emissions determinations.

As a result of comments by Mr. William C. Thomas, District Engineer, Air Programs, there has been some concern raised as to an opacity limitation for the plant. It was Farmland's belief that if NOx emission levels were maintained below a significant level of increase that no further regulation would be needed other than the general criteria for a phosphate processing operation and more specifically that of a concentrator which is part of a processing facility.

BEST AVAILABLE COPY

Purolator courier Purolator Account No. to be billed: 53-24-64252 Date: 10-29-87 **464651031**

Service - Check One - See reverse side for detail
 PureLetter Overnight Letter
 PurePak Overnight Pack
 Priority National Overnight Service Nationwide
 Priority Regional Overnight Service
 Standard 2-day Service
 Optional Service: **Saturday Deliv.** Extra Charge **Hold for Pick-up**

Payment: **Sender Prepaid** **Third Party Cash/Check** **Collect**

From Sender's Name: Ed Pate Sender's Area Code/Phone Number: (913) 533-1141
 Company Name: FAHMLAND INDUSTRIES
 Street Address: HWY 660
 City: GARTON State: FL Zip Code - Required: 33813
 Sender's Signature: [Signature] P.O. or Reference Number:

To Recipient's Name: Mr. Bill Thomas Recipient's Area Code/Phone Number: (904) 488-134
 Company Name: Department of Environmental Regulation Dept./Suite:
 Street Address (P.O. Box numbers not deliverable): 2600 Blair Stone Road
 City: Tallahassee State: FL Zip Code - Required: 32309
 Third Party Billing Name/ Address: [Blurred]

Tariff	Rate Item	SM	Origin Airport	Destination Airport
			<u>TFA</u>	<u>TUH</u>

Advance	Valuation	Code	Amount	Code	Amount	Total Charge

Special Charge: **DB** Route: 24 Courier Guard Initial: [Signature] S.S. - Last 4 digits: 184312 **PUROLATOR USE ONLY**

Weight: 1 L: W: H:

817 Rev. 4/86 **RECIPIENT'S COPY**

Mr. Bill Thomas - DER
October 29, 1987 - Page 2

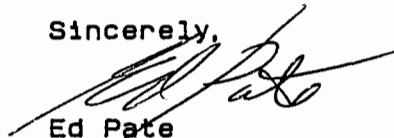
Experience with the pilot plant facility, on which the data we have provided is based, indicates that the full scale plant will meet an NOx emission rate of 40.5 lb/hour and will be designed to specifically maintain a fluoride level not to exceed 0.2 lb/hour. Experience further shows the opacity associated with the NOx emission level will routinely be less than 20% but likely will not be less than 10%; unless there is some unplanned benefit derived from passing the NOx emissions through the fluorine scrubber.

We at Farmand Industries share Mr. Thomas' concern for an aesthetically acceptable emission which will be in agreement with the less than significant measured level of NOx off-gas. However, the process which generates the emission, to our knowledge is entirely unique and therefore may produce a ratio of NOx species which may be quite different from a nitric acid plant or a combustion generator. We will continue to research this aspect in order to achieve a minimal NOx emission and associated opacity, however at this time there is no state of the art technology that can be pulled off the shelf which would guarantee an opacity of 10%. I am enclosing information prepared by Dr. John Koogler which I believe supports the need for an opacity limitation of 20%.

As a result of Mr. Thomas' suggestion, Farmland would be agreeable to generate data during plant start-up that would specifically relate opacity levels to NOx emissions and working with the District office to establish a reasonable opacity limitation based on actual operating data. If it is your final determination that this is the appropriate method to establish attainment of air quality standards then we would ask that the expiration date of the permit be set at October 31, 1988 in order to assure adequate time for data collection, review and discussion. We would additionally request that Farmland's right to an administrative hearing under Section 120.57 Florida Statutes be extended in the event that a satisfactory determination cannot be made.

We appreciate the opportunity to comment and your further consideration. If I may be of any assistance please advise.


Sincerely,



Ed Pate
Coordinator,
Environmental Affairs

REP: dr
Enclosure

cc: Bob Honse
John Koogler
William C. Thomas/Tampa

John Reynolds }
CHF/IBT } 10/30/87 



KA 123-87-02

October 27, 1987

Mr. R. Ed Pate
Farmland Industries, Inc.
P.O. Box 960
Bartow, Florida 33830

Subject: Opacity Limits for Green Acid Plant
Permit No. AC53-138041

Dear Ed:

I have reviewed the information that I have available related to the opacity of emissions from the green acid plant that Farmland Industries is proposing for their Green Bay, Florida facility. The information that I have reviewed includes a review of the New Source Performance Standards for nitric acid plants published by EPA in 1979; a document entitled: Atmospheric Emissions from Nitric Acid Manufacturing Processes, published by the Public Health Service in 1966; the test data that we collected during the measurement of NO_x emissions from the green acid pilot plant in July and August, 1987 and information provided to me by Farmland personnel.

The opacity of emissions from the proposed green acid plant will be a function of the NO₂ concentration in the stack gas. In the original permit application we submitted to Florida Department of Environmental Regulation (FDER) for the construction for the plant, we reported an expected stack gas flow rate of 630 standard cubic feet per minute, wet, and a maximum expected NO_x emission rate of 40.5 pounds per hour. It is my understanding that the air flow rate through the proposed green acid plant has been increased and that the revised stack gas flow rate from the proposed plant will be 2600 standard cubic feet per minute, wet. The maximum expected NO_x emission rate will remain 40.5 pounds per hour. Under the revised conditions, the NO_x concentration in the stack gas will be approximately 2200 parts per million by volume (ppmv).

As I stated previously, the opacity of emissions from the proposed plant will result from NO₂ in the stack gas. The New Source Performance Standard review document published by EPA reports that NO₂ concentrations of greater than 1300 ppmv will produce a definite reddish-brown color in the exit plume. Based on other information that I have reviewed, I interpret this statement to mean that the opacity of a gas containing 1300 ppm of NO₂ will have an opacity of approximately 20 percent.

The NOx measurements that we made on the green acid pilot plant in July and August, 1987 indicated that the ratio of NO/NO2 varied, depending upon the operating conditions of the plant. The data did indicate that at the higher NOx emission rates, the NOx concentration was comprised of more than 50 percent NO. At lower NOx emission rates, the majority of the NOx was comprised of NO2.

Since the 40.5 pound of NOx per hour emission limit that we established for the proposed green acid plant represents a maximum expected NOx emission rate, I feel quite confident that more than half of this NOx will be represented by NO. In the stack gas of the proposed plant, therefore, I would expect the maximum NO2 concentration to be in the range of 1000-1100 ppmv, or somewhat less than half of the 2200 ppmv of NOx. Based upon these figures, I feel quite confident that even under worse case conditions, the maximum opacity of emissions from the proposed green acid plant will be less than 20 percent. Based upon my observations of the green acid pilot plant and the measurements that we conducted on this plant, I doubt very much that the proposed plant can operate day after day with a visible emission limit of 10 percent or less.

Regarding a permit limit for opacity on the proposed green acid plant, I can't see any justification or rationale for establishing a limit at this time that is any more restrictive than the general visible emission limiting requirements of Rule 17-2.610(2), FAC. This rule limits the opacity of emissions from sources in general to 20 percent or less, maximum 6-minute average. The rule also allows that an owner/operator of a source subject to the general visible emission standards may request the Department to establish a higher visible emission standard if it can be demonstrated that the source is within compliance with applicable mass emission standards but fails to comply with the 20 percent opacity limit.

I recognize that opacity limits of less than 20 percent have been established for specific sources such as nitric acid plants, sulfuric acid plants and various sources of particulate matter. It should be recognized, however, that when opacity limits have been established at less than 20 percent, the source in question has usually been subject to a New Source Performance Standard (NSPS) review or a Best Available Control Technology (BACT) review. In the case of an NSPS review, EPA has reviewed emission data from several typical sources and has reviewed the demonstrated control technologies available. After the review, EPA has established NSPS (including visible emission limits) based on a demonstrated technology. Likewise, with Best Available Control Technology reviews, BACT is established only after a review of demonstrated control technologies, a review of economics and a review of environmental impacts.

Another thing to keep in mind is the NSPS established by EPA for selected industries are usually established because of the wide-spread nature of the industry or because of the potential for significant environmental impact. Best Available Control Technology is a requirement for air pollution sources only when the sources are classified as major (those sources emitting more than 100 or 250 tons per year of a pollutant, depending upon

Mr. Ed Pate
Farmland Industries, Inc.

October 27, 1987
Page 3

source category). In the case of the proposed green acid plant, the plant is a one-of-a-kind plant; i.e., no plant similar to this (other than the pilot plant) has been constructed or tested. As a result, there is no background information from operating plants that can be used as a basis for establishing a demonstrated visible emission limit more restrictive than 20 percent opacity. Likewise, there is no baseline information or operating data that can be used to establish demonstrated control alternatives for such a plant.

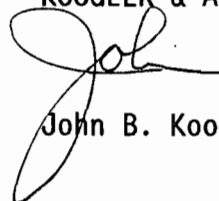
The fact that a Best Available Control Technology determination is not required for the green acid plant results from the fact that the plant is not considered a major modification to the Farmland Green Bay facility. Since the green acid plant is not a major modification, the impact of emissions from the facility can be expected to be minimal. The expected minor environmental impact of emissions from the plant is further justification for not being overly restrictive in establishing emission limits for the plant.

In summary, I feel that a visible emission limit for the green acid plant more restrictive than 20 percent opacity should be considered only if baseline data are available from similar plants demonstrating that a more restrictive limit is achievable both from the standpoint of technology and economics and if it is demonstrated that the impact of emissions from the facility create a significant environmental impact. In the case of the proposed green acid plant, there are no background data from similar plants that can be used for justifying a more restrictive visible emission limit, there is no demonstrated and economically feasible add-on control technology that can be used to control NOx emissions and the environmental impact of emissions from the plant can be expected to be minimal. Another thing to consider is the fact that there are several air pollution sources at the Farmland facility and throughout Polk County that have opacity limits of 20 percent. To propose an opacity limit of less than 20 percent on this relatively minor source is not consistent with other permitting limits imposed by the Department.

If there is anything additional that you would like me to do in reviewing the opacity of emissions from the green acid plant or if you have any questions regarding the information or comments contained herein, please do not hesitate to contact me.

Very truly yours,

KOUGLER & ASSOCIATES



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

JBK:mab

Parolator courier Pkg. 1 of 1
464651031 /

10/29/87
Bartow, FL

unmy



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

DER

OCT 30 1987

BAQM

October 29, 1987

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

Re: Notice of Proposal Agency Action
Permit Application - Farmland
Industries - DER File No. AC53-138041

Dear Mr. Thomas,

We are in the receipt of the Department's proposed agency action on permit application and the draft construction permit for a Green Super Phosphoric Acid Oxidation unit. Upon review of this draft permit we offer the following comments for your consideration:

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min pressure drop can be satisfied during successful compliance test

Mr. Bill Thomas - DEA
October 29, 1987 - Page 2

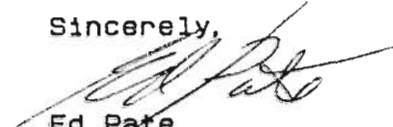
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We appreciate the opportunity to comment and your further consideration. If I may be of any assistance please advise.

Sincerely,


Ed Pate
Coordinator,
Environmental Affairs

REP: dr
Enclosure

cc: Bob Honse
John Koogler
William C. Thomas/Tampa

Jake Reynolds }
CHF/IBT } 10/30/87 (MP)

*Seems reasonable
w/ report addressing
critical parameters*

Puroator Courier file copy
464651022
10-22-87
Bartow, FL



FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

DER
OCT 28 1987
BAQM

October 22, 1987

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

Re: DER File No. AC53-138041

Dear Mr. Fancy,

Enclosed please find Farmland Industries "Proof of Publication" of the Department's "Notice of Proposed Agency Action on Permit Applications" as specified in the Intent to Issue. Farmland's comments concerning the Department proposed action will be forthcoming to Mr. Thomas under separate cover.

Sincerely,

Ed Pate
Coordinator
Environmental Affairs

REP:dr

xc: Bill Thomas - DER w/enclosure
John Reynolds - DER w/enclosure
Bob Honse - w/enclosure

Copied: John Reynolds - 10/26/87

BEST AVAILABLE COPY

Purolator courier Purolator Account No. to be billed: 53-24-64252 Date: 10-22-87 **464651022**

Service - Check One - See reverse side for detail
 PuroLetter Overnight Letter
 PuroPak Overnight Pack
 Priority National Overnight Service Nationwide
 Priority Regional Overnight Service
 Standard 2-day Service
 Optional Service Saturday Delv. Extra Charge
 Hold for Pick-up

Payment **Sender Prepaid** **Third Party Cash/Check**
 Collect

From Sender's Name: Ed Pate Sender's Area Code/Phone Number: (913) 533-1141
 Company Name: PAPPLAND INDUSTRIES
 Street Address: 4001 640
 City: APTCH State: FL Zip Code - Required: 33830
 Sender's Signature: [Signature] P.O. or Reference Number: _____

To Recipient's Name: Mr. C. H. Fency Recipient's Area Code/Phone Number: ()
 Company Name: _____ Dept./Suite: 488-1344
 Street Address (P.O. Box numbers not deliverable): Department of Environmental Protection
2600 Blair Stone Road
 City: _____ State: _____ Zip Code - Required: _____
 Telephone: _____
 Third Party Billing Name/ Address: _____
 Weights: L W H
BAQM

Tariff	Rate Item	SM	Origin Airport	Destination Airport		
			<u>TIA</u>	<u>TLA</u>		
Advance	Valuation	Code	Amount	Code	Amount	Total Charge
Special Charge	<input type="checkbox"/> OR	Route	Courier Guard Initial	S.S. - Last 4 digits	PUROLATOR USE ONLY	
			<u>[Initial]</u>	<u>5312</u>		

813 Rev. 480

RECIPIENT'S COPY

AFFIDAVIT OF PUBLICATION

THE LEDGER

Lakeland, Polk County, Florida

Case No

Attach Notice Here

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared Stephen DeWitt, who on oath says that he is Controller of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

Notice

in the matter of

Proposed Agency Action

in the

Court, was published in said newspaper in the issues of

October 17; 1987

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the postoffice in Lakeland, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed *Stephen DeWitt*
Controller

Sworn to and subscribed before me this 20th
day of October A.D. 19...87



Cheryl Webb
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: JUNE 25, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

My Commission Expires

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Farmland, Inc., to construct a Green Superphosphoric Acid (GSPA) Oxidation Unit at its Bartow plant located four miles southwest of Bartow on State Road 640 in Polk County. The project involves shutting down the existing No. 1 and No. 2 sulfuric acid plants before the startup of the GSPA plant. As a result of the contemporaneous shutdowns, emissions of regulated air pollutants will not exceed significant levels. Consequently, the project is exempted from the new source review requirements under FAC Rules 17-2.500. The Department has determined that the proposed construction will not interfere with attainment of the ambient air quality standards.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32399-2400. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

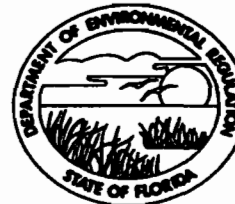
The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:
Dept. of Environmental Regulation
SW District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7349

Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determinations.

W310 - 10-17; 1987

DER
OCT 23 1987
BAQM



Interoffice Memorandum

For Routing To Other Than The Addressee

To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

TO: Bill Thomas, BAQM

THRU: Harry Kerns *JK*

FROM: Bill Thomas, S.W. District *WCT*

DATE: October 16, 1987

SUBJECT: Technical Evaluation & Preliminary Determination,
Farmland Industries, Inc., Green Superphosphoric Acid,
AC53-138041

At Farmland, NO_x emissions from the offset contact Sulfuric Acid Plants are not visible, whereas NO_x emissions from the Green Acid pilot plant at Farmland are highly visible and exhibit a brown plume similar to a Nitric Acid Plant:

However, an NO_x standard for the proposed process is non existant. A somewhat commensurate standard is 40 CFR 60, Subpart G, Nitric Acid Plants, allowing a maximum 10% opacity, and 3 lbs. NO_x/ton Nitric Acid. Nitric Acid translates to a stack concentration of .229 grains NO_x/DSCF. Farmland's Green Acid permit application data computes to 8.34 grains NO_x/DSCF, with a flow of 34,000 DSCF/hr. This requires that NO_x emissions be further addressed in the technical evaluation and proposed permit.

WCT/js

cc: Robert Honse
Ed Pate
John Koogler
John Reynolds

Meeting with B. Thomas 10/21!

*Cite AP 42 Nitrogen combustion
(95% (wt.) of NOx from C/Hg combustion
is NO... 5% NO2*

*Bill Thomas: Add condition - District will establish opacity
after operation starts. Add provision
that rights are protected on both side
to hearings.
Require opacity
during compliance test.*

Farmland prefers 20% as a condition of permit.

*Calculate 16 NOx / 14 N in
for HNO3 and relate
to concentration. Cite
Agreement, in concept, to
set opacity after
Startup based on observed
readings, and the
reasonable cost of
reducing opacity to
levels req'd for HNO3
plants.*



Interoffice Memorandum

For Routing To Other Than The Addressee

To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

TO: Bill Thomas, BAQM

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However, an NO_x standard for the proposed process is non-existent. A somewhat commensurate standard is 40 CFR 60, Subpart G, Nitric Acid Plants, allowing a maximum 10% opacity, and 3 lbs. NO_x/ton Nitric Acid. Nitric Acid translates to a stack concentration of .229 grains NO_x/DSCF. Farmland's Green Acid permit application data computes to 8.34 grains NO_x/DSCF, with a flow of 34,000 DSCF/hr. This requires that NO_x emissions be further addressed in the technical evaluation and proposed permit.

WCT/js

cc: Robert Honse
Ed Pate
John Koogler
John Reynolds

P 274 007 669

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

* U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Robert W. Honse, Gen. Mgr. Farmland, Inc.	
Street and No. P.O. Box 960	
P.O., State and ZIP Code Bartow, FL 33830	
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 Mailed: 10/09/87 Permit: AC 53-138041	

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

SENDER: Complete items 1, 2, 3 and 4.

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 service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to: Robert W. Honse
General Manager
Farmland, Inc.
P.O. Box 960
Bartow, FL 33830

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	P 274 007 669

Always obtain signature of addressee or agent and **DATE DELIVERED.**

- Signature - Addressee
Linda Thompson
- Signature - Agent
X
- Date of Delivery
10-13-87
- Addressee's Address (ONLY if requested and fee paid)
Callie Sewer

Full Copy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

October 9, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert W. Honse, General Manager
Farmland, Inc.
Post Office Box 960
Bartow, Florida 33830

Dear Mr. Honse:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to construct the Green Superphosphoric Acid Oxidation plant of your Bartow facility.

Please submit, in writing, any comments which you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/JR/s

cc: W. Thomas, SW District
J. Koogler, Ph.D., P.E.,
R. E. Pate, Farmland

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Farmland, Inc.
P. O. Box 960
Bartow, Florida 33830

DER File No. AC 53-138041

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue a permit (copy attached) for the proposed project as detailed in the application specified above (copy attached). The Department is issuing this Intent to Issue for the reasons in the attached Technical Evaluation and Preliminary Determination.

The applicant, Farmland, Inc., applied August 13, 1987, to the Department of Environmental Regulation for a permit to construct a Green Superphosphoric Acid Oxidation Unit at their facility in Bartow, Florida.

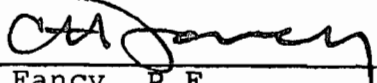
The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit was needed for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit application. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, Florida Statutes. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. Petitions must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management

Copies furnished to:

W. Thomas, SW District
J. Koogler, K&A
R. E. Pate, Farmland

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 10-9-87.

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.

Martha J. White 10-9-87
Clerk Date

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Farmland, Inc., to construct a Green Superphosphoric Acid (GSPA) Oxidation Unit at its Bartow plant located four miles southwest of Bartow on State Road 640 in Polk County. The project involves shutting down the existing No. 1 and No. 2 sulfuric acid plants before the startup of the GSPA plant. As a result of the contemporaneous shutdowns, emissions of regulated air pollutants will not exceed significant levels. Consequently, the project is exempted from the new source review requirements under FAC Rules 17-2.500. The Department has determined that the proposed construction will not interfere with attainment of the ambient air quality standards.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32399-2400. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
SW District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7349

Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners;
 - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
 - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
 - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
 - (f) A demand for the relief to which the petitioner deems himself entitled; and
 - (g) Such other information which the petitioner contends is material.

Technical Evaluation
and
Preliminary Determination

Farmland Industries, Inc.
Polk County

Green Super Phosphoric Acid Oxidation Unit
Proposed State Permit No. AC 53-138041

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

October 9, 1987

I. Application Information

A. Applicant

Farmland Industries, Inc.
P. O. Box 960
Bartow, Florida 33830

B. Request

The Department received an application on August 13, 1987, for a permit to construct a Green Superphosphoric Acid Oxidation Unit at Farmland's phosphate facility near Bartow. Farmland requested that, in conjunction with the contemporaneous shutdown of two existing sulfuric acid plants, they be allowed to offset 50.4 tons per year of NOx emissions resulting in a net NOx emission increase from the facility of 39.6 tons per year. The source will also have an insignificant increase in fluoride emissions, however, no other regulated pollutants will be emitted from the source.

C. Project Location

The new source will be located off State Road 640 near Bartow, Florida, within the existing boundaries of the Farmland phosphate complex. The UTM coordinates of the site are: 409.5 km E and 3079.5 Km N. Latitude of the site is 27°50'37" N while longitude is 81°56'05" W.

II. Project Description

The project involves the construction of a 27 TPH oxidation unit to improve the color and quality of the existing super phosphoric acid. An oxidant chemical is added to the acid to drive off the carbon impurities as CO₂ leaving an opaque green acid product with improved application properties. Byproduct NOx emissions are evolved along with a small amount of fluoride. Farmland developed the oxidation reaction process using pilot plant data. The NOx emissions will be below the significant level by virtue of a contemporaneous shutdown of the No. 1 and No. 2 sulfuric acid plants. Fluoride emissions will be scrubbed using recirculated pond water. The emissions that will result from this source are shown as follows:

	Increase (TPY)	Contemporaneous Reduction (TPY)	Net Change (TPY)	Significant Level (TPY)
Fluoride	0.4	--	0.4	3
NOx	90.0	50.4	39.6	40

III. Rule Applicability

Farmland's proposed construction permit application is subject to review under provisions of Chapter 403, Florida Statutes, and Chapters 17-2 and 17-4, Florida Administrative Code (FAC). The Farmland facility is located in an area designated as attainment for nitrogen oxide. The addition to the superphosphoric acid plant will be classified as a minor source of NOx since the emissions of NOx do not exceed 100 TPY. Since Farmland will contemporaneously shut down their No. 1 and No. 2 sulfuric acid plants, there will be a net increase in emissions of NOx below the significance level for which PSD review would be required. The project is therefore exempted from new source review for PSD areas (FAC Rule 17-2.500(2)(d)1). FAC Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements, is applicable for this installation. The Department has determined that the proposed construction, in view of the contemporaneous shutdowns, will not interfere with attainment of ambient air quality standards.

The construction will not be subject to new source performance standards for fluorides from superphosphoric acid plants under 40 CFR 60.210 because the equipment to be installed is not within the definition of "affected facility" stated in 40 CFR 60.210(a) and not within the definition of "Superphosphoric Acid Plant" stated in 40 CFR 60.211(a).

IV. Conclusion

The Department finds no reason to deny the application as long as the contemporaneous shutdowns are carried out before the Green Superphosphoric Acid plant begins its operation. The shutdowns will be stated as specific conditions of the permit.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

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

Permit Number: AC 53-138041
Expiration Date: July 31, 1988
County: Polk
Latitude/Longitude: 27° 50' 37" N
81° 56' 05" W
Project: Green Super Phosphoric
Acid Oxidation Unit

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 a Green Superphosphoric Acid (GSPA) plant located at the permittee's phosphate fertilizer complex near Bartow on State Road 640 in Polk County, Florida. UTM coordinates are 409.5 km E and 3079.5 km N.

Construction shall be in accordance with the attached permit application except as otherwise noted under the Specific Conditions set forth in this permit.

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER form 17-1.202(1), and letter dated August 7, 1987.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

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

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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 date(s) 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. Maximum permitted production rate for this plant shall be 27 TPH of Superphosphoric Acid containing 70% P₂O₅. If the production rate exceeds the maximum permitted rate by 10% or more at any time, a compliance test must be conducted after notifying the Department and the results of this test, along with other information listed in Specific Condition No. 8 must be submitted to the Department within 10 working days. Any emissions in excess of those listed in Specific Condition No. 2 shall constitute a violation of this permit. The plant may operate 4,448 hours per year if permitted emissions are not exceeded.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

SPECIFIC CONDITIONS:

2. The emissions from the Green Superphosphoric Acid plant shall not exceed:

Pollutant	Maximum Allowable Emissions	
	lb/hr	T/yr
NOx	40.5	90.0
Fluoride	0.2	0.4

3. Other emissions from the process shall be controlled by sealing and/or venting such emissions to the pollution abatement system.

4. The permittee shall install, calibrate, maintain, operate and record data from flow monitoring devices used to determine total P₂O₅ input to the plant. A daily record on the P₂O₅ input to the plant shall be maintained.

5. The permittee shall measure and record the total pressure drop across each scrubber system. Pressure drop across the scrubber must be at least 12 inches of water during plant operation. These records shall be maintained for 2 years and available for inspection by regulatory agency personnel on request.

6. Construction should commence and be completed within a reasonable time based on the projections in the application.

7. Reasonable precautions to prevent fugitive particulate emissions during modification, such as coating or spraying roads and construction sites used by contractors, shall be taken by the permittee.

8. Before the construction permit expires, the GSPA plant shall be sampled for NOx and fluoride emissions. Test procedures shall be in accordance with EPA reference methods 1, 2, 3, 7 and 7A. as published in 40 CFR 60, dated July 1, 1986. The Department shall be notified in writing 15 days or more prior to the compliance test. The test shall be conducted at permitted production capacity or no less than 90% thereof. P₂O₅ input, pH of scrubber water, and pressure drop across the scrubber shall be reported to the Department along with the test data and results.

PERMITTEE:
Farmland, Inc.

Permit Number: AC 53-138041
Expiration Date: July 31, 1988

SPECIFIC CONDITIONS:

9. The No. 1 and No. 2 Sulfuric Acid Plants will permanently cease operation prior to the startup of the GSPA plant under the conditions of this permit.

Issued this _____ day of _____, 19____

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

**PUBLIC NOTICE - 350
PUBLIC HEARING ON PROPOSED AMENDMENTS TO
DIVISION 3 OF THE ADEM ADMINISTRATIVE CODE
AIR PROGRAM**

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
1400 Coliseum Blvd
MONTGOMERY, ALABAMA 36110-2059

Notice is hereby given that the Alabama Department of Environmental Management (ADEM) will hold a public hearing on November 12, 2002, beginning at 10:00 a.m. in the Hearing Room at the ADEM Central Office located at 1400 Coliseum Boulevard in Montgomery, Alabama to consider proposed amendments in Division 3 of the ADEM Administrative Code.

Revisions to the Division 3 Code are being proposed to amend Chapter 335-3-8, specifically to add a new rule under 335-3-8-.15 to establish standards for emissions of nitrogen oxides from new Combined-Cycle Electric Generating Units. This Rule is not proposed for incorporation into the Alabama State Implementation Plan (SIP).

The hearing is being held to give interested persons the opportunity to comment on the proposed Rule changes, and anyone wishing to make a relevant oral presentation may appear at the hearing.

Written comments may be directed to the Hearing Officer, Office of General Counsel, at ADEM's Montgomery address below. Such comments will be received anytime during the comment period, which will end at the close of business on November 12, 2002.

Hearing Officer
Alabama Department of Environmental Management
Office of General Counsel
P.O. Box 301463
Montgomery, AL 36130-1463

E-mail comments may be directed to Airmail@adem.state.al.us.

*John - pls
get a copy of
draft & let's
discuss. cu*

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The proposed amendments are available for viewing at the following locations:

Alabama Department of Environmental
Management
1400 Coliseum Boulevard
Montgomery, AL 36110-2059

ADEM Birmingham Field Office
110 Vulcan Road
Birmingham, AL 35209

Southeast Alabama Regional Planning &
Development Commission
462 North Oates, 4th Floor
Dothan, AL 36303

Alabama - Tombigbee Rivers Planning &
Development Commission
Courthouse Annex
107 Broad Street
Camden, AL 36726

ADEM Mobile Field Office
2204 Perimeter Road
Mobile, AL 36615

ADEM Decatur Field Office
2715 Sandlin Road, S.W.
Decatur, AL 35603

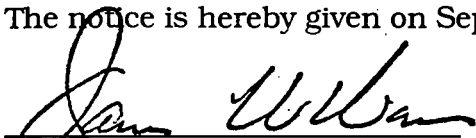
East Alabama Regional Planning &
Development Commission
1130 Quintard Avenue
Anniston, AL 36201

Copies of the changes to the regulations and the summary of the proposed amendments may be obtained for free at any of the ADEM offices listed above or by requesting the copies by mail at the Montgomery ADEM office, Permits & Services Division [Central Office in Montgomery (see address above) (334) 271-7997]. Copies are also available on the Internet at: <http://www.adem.state.al.us>.

The hearing record will be kept open until 5:00 p.m., November 12, 2002 in order to receive written comments.

Any person wishing to participate in the hearing who needs special accommodations should contact the Permit Coordination Center at (334) 271-7714 at the ADEM at least five (5) working days prior to the hearing.

The notice is hereby given on September 22, 2002 by authorization of ADEM.



James W. Warr, Director

Reynolds, John

From: Kitchens, Jeff [JWK@adem.state.al.us]

Sent: Monday, September 30, 2002 10:57 AM

To: Reynolds, John

Subject: new rule

335-3-8-.15 Standards for New Combined-Cycle Electric Generating Units. [NEW RULE]

(1) Applicability. The requirements of this Rule apply to all natural gas-fired and fuel oil-fired combined-cycle electric generating units which commence operation on or after April 1, 2003. The requirements of this Rule do not pre-empt the applicability of any other State or Federal regulations.

(2) Definitions. For the purposes of this Rule, the following definitions apply:

(a) "Combined-Cycle Electric Generating Unit" means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

(b) "Commence Operation" means to have begun to produce steam, gas, or other heated medium used to generate electricity for use or sale, including test generation.

(c) "Fuel Oil" means any petroleum-based fuel (including diesel fuel) as defined by the American Society for Testing and Materials in ASTM D396-90a, "Standard Specification for Fuel Oils".

(d) "Natural Gas" means a naturally fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

(3) Emission Limitations.

(a) No person shall cause or permit the emissions of nitrogen oxides from combined-cycle electric generating units fired by natural gas in excess of 4.0 ppmvd at 15% O₂.

(b) No person shall cause or permit the emissions of nitrogen oxides from combined-cycle electric generating units fired by fuel oil in excess of 15.0 ppmvd at 15% O₂.

(4) Compliance Method. Compliance with the nitrogen oxides emissions limitations in paragraph (3) of this Rule shall be determined by EPA Reference Method 20 as found in 40 CFR 60, Appendix A [and incorporated by reference in Rule 335-3-10-.03(1)].

Author: Ronald W. Gore

Statutory Authority: Code of Alabama 1975, §§22-28-10, 22-28-11, 22-28-14, 22-28-18, 22-28-20, 22-28-22, 22-22A-5, 22-22A-6, and 22-22A-8.

History: Effective Date: XXXXXX, 2003.

Jeffery W. Kitchens
Industrial Minerals Section
Engineering Services Branch
Air Division
ADEM
(334) 271-7867
jwk@adem.state.al.us

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FARMLAND INDUSTRIES, INC.

post office box 960 / bartow, florida 33830

August 7, 1987

Mr. Clair Fancy
Deputy Chief, Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Fancy:

Enclosed please find an application for a permit to construct a facility to change the color of black Super Phosphoric Acid (SPA) to green SPA. The existing SPA Plant is located at Farmland Industries Green Bay Plant in Polk County about eight miles Southwest of Bartow on State Road 640.

On Tuesday, August 4, I met in your office with Mr. Barry Andrews, Mr. Bill Thomas, Mr. Willard Hanks and Mr. John Reynolds to briefly discuss the Farmland plans for construction and receive advice in providing information that would allow the Department to issue a construction permit at the earliest time. The information received has been most helpful.

Farmland has obtained the services of Dr. John Koogler, of Koogler and Associates, and developed design and emissions data that will provide a facility that will have a minimal impact to the surrounding environment. In response to the advice received, we have made an attempt to provide complete and accurate information in order to expedite the permitting process.

The equipment and installation, while it is a relatively small operation, represents a major investment for Farmland while we are still attempting to climb out of the 6 year phosphate depression. A significant part of the initial investment can be recovered if we can produce green SPA for the Spring fertilizer season. To accomplish this would require a plant

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Mr. Clair Fancy
Department of Environmental Regulation
August 7, 1987 - page 2.

that is operating by January and in full production by February. Construction of the facility is estimated to require about 10 weeks. We will, therefore, make every effort to provide any information that will assist you in evaluating this application. At your convenience, we would like to request a meeting in August, at your office, to answer any questions or provide further explanation.

Additionally Farmland is requesting confidentiality for the information that has been identified as proprietary. This information was developed by Farmland scientists and is presently under consideration for patent approval.

Your assistance in providing an early evaluation will be appreciated. Should you require any additional input from Farmland or Dr. Koogler please advise at the earliest time.

Sincerely,

FARMLAND INDUSTRIES, INC.



R. E. Pate
Environmental Coordinator

REP:pm

Enclosures: Green Super Phosphoric Acid Permit Application
Check for \$1000

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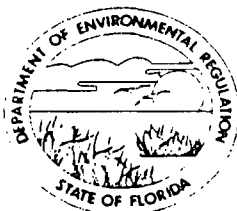
STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

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BAQM



BOB GRAHAM GOVERNOR

VICTORIA J. TSHINKEL SECRETARY

RICHARD D. BARRITY, PH.D. DISTRICT MANAGER

SOUTHWEST DISTRICT

7501 HIGHWAY 301 NORTH TAMPA, FLORIDA 33610-9544

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Green Super Phosphoric Acid [x] New¹ [] Existing¹

APPLICATION TYPE: [x] Construction [] Operation [] Modification

COMPANY NAME: Farmland Industries, Inc. COUNTY: Polk

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Superphosphoric Acid Unit

SOURCE LOCATION: Street State Road 640 City Bartow

UTM: East 409.5 North 3079.5

Latitude 27 ° 50 ' 37 "N Longitude 81 ° 56 ' 05 "W

APPLICANT NAME AND TITLE: Robert W. Honse - General Manager - Phosphate Manufacturing

APPLICANT ADDRESS: P. O. Box 960 - Bartow, Florida 33830

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Farmland Industries, Inc.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Robert W. Honse
Robert W. Honse
General Manager-Phosphate Manufacturing
Name and Title (Please Type)

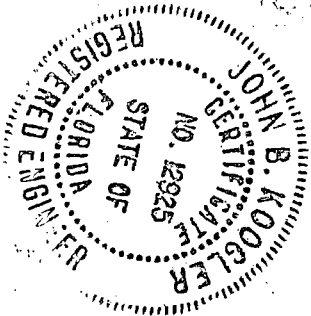
Date: 08/07/87 Telephone No. (813) 533-1141

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed [Signature]
John B. Koogler
Name (Please Type)
Koogler & Associates
Company Name (Please Type)
2603 NE 17 Terr, Gainesville, FL 32609
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 8/7/87 Telephone No. 904/377-5822

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction October 19, 1987 Completion of Construction December 31, 1987

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Pondwater Scrubber for abatement of Fluorine emissions is estimated to cost \$30,000.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Operating Permit A053-106977 Therminol Heater for the SPA Plant issued December 5, 1985 expires December 4, 1990.

Consent Order OGC Case No. 87-0679 Green SPA Pilot Plant signed June 5, 1987.

Construction Permit Application AC 53-137160 Green/SPA/Pilot Plant filed July 20, 1987.

Stamp: RECEIVED... SWIERSON... 10009

ATTACHMENT A.

The Green Bay Plant produces Super Phosphoric Acid (SPA) under permit A053-106977. Carbon particles entrained in the normal SPA product yield a black acid product which has proven objectionable in the market place and resulted in a non-competitive product of diminished value. Farmland plans to add equipment to the existing SPA Process which will convert the carbon particles to carbon dioxide which evolve off the acid yielding an opaque green acid that is aesthetically pleasing to the Farmer/user and is reported to pass through micro-jet applicator nozzles better after conversion to liquid fertilizer.

The oxidant chemical added to the hot SPA to promote the carbon reaction yields a gaseous NO_x emission due to incomplete oxidation and a small amount of gaseous Fluoride which is stripped from the SPA. Several weeks of testing in a pilot plant facility confirm early laboratory tests, which indicate that NO_x emissions are best controlled through complete and continuous oxidation in the reaction process. Attempts to reduce NO_x emissions by acid scrubbing of the off-gas resulted in a change in the forms of Nitrogen Oxides without a net reduction in the NO_x. In several cases the converted form was more objectionable, yielding visible emissions (NO₂) in excess of the 20% allowable for the green acid pilot plant. The oxidation/reaction process Farmland has designed, which includes oxidant recovery and recirculation, will maintain NO_x levels, with offsets, below the significant net emissions increase of 40 tons per year. The NO_x emission rate indicated by the test data is 1½ lbs per ton of SPA.

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Farmland will construct and install a cyclonic type scrubber to abate and control Fluoride emissions. The unscrubbed gas enters the scrubbing chamber in a tangential direction to cause a spiral gas movement up the scrubber. In the lower portion of the chamber, recirculated process water is sprayed into the chamber to collide with and cleanse the gas stream through absorption. The water droplets disengage from the gas in upper section as centrifugal rotation of the spiralling gas/liquid flings even minute droplets to the wall. The Fluoride laden water drops to the bottom and is captured in a seal pot as the gas stream continues through a direction change and polishing spray chamber prior to discharge. Previous experience and testing indicate Fluoride emissions will be maintained well below deminimis levels.

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E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
 if power plant, hrs/yr N/A ; if seasonal, describe: The principal production
periods will be February through May and August through November each year in order
to supply this basic liquid fertilizer raw material to the farmers for application
during the growing seasons. The annual hours of operation will be limited to 4448 hr/yr

F. If this is a new source or major modification, answer the following questions.
 (Yes or No) With offsets, the project is classified as a minor modification to a
 major emitting facility.

1. Is this source in a non-attainment area for a particular pollutant? No

a. If yes, has "offset" been applied? NA

b. If yes, has "Lowest Achievable Emission Rate" been applied? NA

c. If yes, list non-attainment pollutants. NA

2. Does best available control technology (BACT) apply to this source?
 If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)
 requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
 apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"
 (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
 to this source? No

a. If yes, for what pollutants? NA

b. If yes, in addition to the information required in this form,
 any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
 cation for any answer of "No" that might be considered questionable.

See Attachment B.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
H ₃ PO ₄ (SPA)	F	0.3	53956	Stream No. 2
Oxidant + H ₂ O	None	-	Proprietary*	Stream No. 1
*See proprietary disclosure attached.				

B. Process Rate, if applicable: (See Section V, Item 1) (See Attachment D)

- Total Process Input Rate (lbs/hr): 53956 + Oxidant + H₂O
- Product Weight (lbs/hr): 54247 (Oxidized SPA + H₂O)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
NO _x	40.5	90.0	NA	NA	40.5	90.0	Stream 5
Fluoride	0.2	0.4	NA	NA	45.0	100.0	Stream 5

¹See Section V, Item 2. (See Attachment E)

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3). (See Attachment F)

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ATTACHMENT B.

The proposed facility will result in the emission of 90.0 tons per year of NO_x (reported as NO₂) and 0.42 tons per year of Fluoride. No other regulated pollutants (See Table 17-2.500-2,FAC) will be emitted from the facility.

The emission of NO_x will be partially off-set by the permanent shut down of the No. 1 and No. 2 Sulfuric Acid Plants (Permits A053-99016 and A053-99018. The NO_x off-sets will total 50.4 tons per year; resulting in a net NO_x emission increase from the proposed facility of 39.6 tons per year. This emission increase is less than the 40 ton per year de minimis increase for NO_x defined by Rule 17-2.500(2)(e)2,FAC. The off-sets for NO_x are documented in Attachment C to this application.

The Fluoride emissions from the proposed facility will be 0.42 tons per year; a rate less than the three ton per year de minimis emission increase for Fluorides defined by Rule 17-2.500(2)(e)2,FAC.

Since there will not be a significant increase in the emission rate of any pollutant regulated under the act, the proposed facility will not be classified as a modification to a Major Facility (Rule 17-2.500(2)(d)4.a.(ii),FAC. The project will be permitted as a modification to a Minor Facility in accordance with Rule 17-2.500(2)(d)4.b,FAC.

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ATTACHMENT C.

NO_x EMISSION OFFSETS FROM EXISTING SULFURIC ACID PLANTS

Plant No. 1 - Permit A053-99016 (800 TPD 100% H₂SO₄)
Plant No. 2 - Permit A053-99018 (800 TPD 100% H₂SO₄)

TEST DATA

PLANT	DATE	RATE (tph)	STACK GAS		
			FLOW (dscf/ton)	SO ₂ (lb/ton)	ACID MIST (lb/ton)
1	2/84	37.8	102,557	4.85	0.14
2	5/84	31.9	108,925	6.01	0.06
1	10/84	30.9	116,508	7.15	0.04
2	11/84	26.4	118,198	7.98	0.02
AVG			111,547	6.50	0.07

ANNUAL OPERATING FACTORS (1984)

PLANT	HOURS OF OPERATION (hr/yr)	ACID PRODUCTION (tons/yr)
1	8,467	236,650
2	8,372	193,866
TOTAL	16,839	430,516

NO_x EMISSIONS

$$\begin{aligned} \text{Annual} &= 111,547 \text{ dscf/ton} \times 430,516 \text{ ton/yr} \\ &\quad \times (2.1 \times 10^{-6}) \text{ lb NO}_x/\text{dscf}^* \times 1/2000 \text{ lb/ton} \\ &= 50.4 \text{ tons NO}_x/\text{yr as NO}_2 \end{aligned}$$

*See IMC-New Wales PSD Application for Third Train Expansion

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ATTACHMENT D.

PROCESS INPUT AND PRODUCTION RATE

PROCESS INPUT

H3PO4 (as SPA)	-	53,956 lb/hr
Oxidant + H2O	-	Proprietary
Air Infiltration	=	1,200 lb/hr
<hr/>		
TOTAL	-	55,156 + Oxidant + H2O

PRODUCT/DISCHARGES

H3PO4 (Oxidized SPA with H2O)	-	54,247 lb/hr
Air and Inert Gases	-	2,830 lb/hr
Fluoride in Scrubber Water	-	45 lb/hr
Fluoride to Atmos	-	0.2 lb/hr
NOx to Atmos	-	40.5 lb/hr
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TOTAL		57,162.7 lb/hr

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ATTACHMENT E.

BASIS FOR ESTIMATE OF EMISSIONS WITH ABATEMENT

Manufacturers experience with similar Fluorine laden gas streams containing a high percentage of condensible vapors indicate that efficient gas contacting and gas cooling, using process cooling water, and achieving outlet gas temperatures less than 120 degrees (F) is capable of producing scrubber outlet gas Fluorine concentrations in the range of

$$(3.9 \text{ to } 5.2) \times 10^{-6} \text{ lbs. F/DSCF Scrubber Outlet Gas.}$$

Design estimates of process gas load including air infiltration to the equipment is estimated to be approximately 34,000 DSCF/Hr.

Estimated scrubber water flow rates to accomplish cooling is 300 to 400 GPM at full rate using summer time cooling pond water outlet temperatures.

Thus,

$$(5.2 \times 10^{-6} \text{ LB F/DSCF}) \times (34,000 \text{ DSCF/Hr.}) = 0.177 \text{ LB.F/Hr}$$

$$\text{Process Design Rate of Superphosphoric Acid Throughput} = 18.75 \text{ TON P}_2\text{O}_5/\text{Hr}$$

$$\text{LB. F Emitted to Atmosphere / Ton P}_2\text{O}_5 \text{ Throughput} =$$

$$(0.177 \text{ LB F/Hr}) / (18.75 \text{ Ton P}_2\text{O}_5/\text{Hr}) = .0094 \text{ LB F/TON P}_2\text{O}_5 \text{ (Maximum)}$$

$$\text{Estimated Percent Scrubber Efficiency} = (\text{LB F Removed} / \text{LB F in Unabated Process Gas}) \times 100$$

$$\% = (\text{Inlet LB F} - \text{Outlet LB F}) / \text{Inlet LB F} \times 100.0$$

$$\text{RANGE} \quad \% = (1.03 \text{ LB F/TON P}_2\text{O}_5 - .0094 \text{ LB F/TON P}_2\text{O}_5) / (1.03 \text{ LB F/TON P}_2\text{O}_5) \times 100.0$$

$$\text{TO} \quad \% = (2.40 \text{ LB F/TON P}_2\text{O}_5 - .0094 \text{ LB F/TON P}_2\text{O}_5) / (2.40 \text{ LB.F/TON P}_2\text{O}_5) \times 100.0$$

ESTIMATED SCRUBBER FLUORIDE REMOVAL EFFICIENCY = 99.1% to 99.6%
OVER RANGE OF EXPECTED UNABATED PROCESS LOAD

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ATTACHMENT E, (Continued)
BASIS FOR ESTIMATE OF EMISSIONS WITH ABATEMENT

SUMMARY OF PILOT PLANT TESTS FOR NO_x EMISSIONS

Test Dates - July 15 and August 4-7, 1987

Stack Gas Flow - 133,080 dscf/hr

OPERATING CONDITIONS

SPA INPUT (GPM)	SPA INPUT (TON/HR)	STACK GAS NO _x (PPM)	STACK GAS NO _x (LB/HR)	STACK NO _x (LB/TON SPA)
10	5.0	220-300	3.8 - 5.1	0.8 - 1.0
12	6.0	240-360	4.1 - 6.1	0.7 - 1.0
15	7.5	270-470	4.6 - 8.0	0.6 - 1.1
17	8.5	380	9.9	1.2
20	10.0	680	11.6	1.2

For permitting, use 1.5 lb NO_x (as NO₂) per ton of SPA.

This will allow for variations in acid composition, scaling
from pilot plant to production plant and operating variables.

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ATTACHMENT E, (Continued)
BASIS FOR ESTIMATE OF EMISSIONS WITH ABATEMENT

EMISSION RATE CALCULATIONS

NOx

Emission Factor	-	1.5 lb NOx (NO2)/Ton SPA
SPA Feed Rate	-	27.0 ton/hr
Operating Factor	-	4448 hr/yr
NOx (hourly)	=	1.5 lb/ton x 27.0 ton/hr
	=	40.5 lb/hr
NOx (annual)	=	40.5 lb/hr x 4448 hr/yr
		x 1/2000 lb/ton
	=	90.0 TPY

FLUORIDE

Emission Factor	-	0.01 lb F /ton P ₂ O ₅
P ₂ O ₅ Feed Rate	-	27.0 x 0.695 = 18.75 ton/hr
Operating Factor	-	4448 hr/yr
Fluoride (hourly)	=	0.01 lb/ton x 18.75 ton/hr
	=	0.2 lb/hr
	=	0.2 lb/hr x 4448 hr/yr
		x 1/2000 lb/ton
	=	0.4 TPY

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ATTACHMENT F.

BASIS OF ESTIMATE FOR UNABATED FLUORIDE EMISSIONS

Process Fluoride emission without abatement is estimated to be in the range of 1.03 to 2.4 lb/ton P₂O₅. These estimates were derived from laboratory experiments and from gas samples collected from pilot plant tests. Variance in emissions without abatement are caused by several factors including Fluorine levels in rock used, staging configuration of prior evaporation steps, ratio of Fluorine to Silica in 30% wet phosphoric acids produced, and the amount of water removed per ton of P₂O₅ in prior evaporation steps. Abatement mechanism to be used is fairly insensitive to variations in preabatement Fluoride levels within this range.

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D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Scrubber to be constructed by Farmland- design details not completed	Fluoride	99.1 - 99.6	NA	Tests(see Attachment E)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average NA Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Scrubber water from Fluoride scrubber will be recirculated through the
process water pond.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 65 ft. Stack Diameter: 1.0 ft.
 Gas Flow Rate: 692 ACFM 567 DSCFM Gas Exit Temperature: 120 °F.
 Water Vapor Content: 10 % Velocity: 14.7 FPS

NOT APPLICABLE SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____
 Manufacturer _____
 Date Constructed _____ Model No. _____

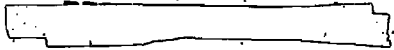
	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____
 Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Fluidized bed burner
 Other (specify) _____

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Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
SEE ATTACHMENT D.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. SEE ATTACHMENT E.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
SEE ATTACHMENT F.
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.) The scrubbing principals are described in Attachments E and H. Mechanical details of the scrubber system design are not complete.
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
SEE ATTACHMENT F.
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
SEE ATTACHMENT G.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
SEE FIGURE 1.
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
SEE FIGURE 2.

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9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY (Not Applicable)

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

ATTACHMENT G.

GENERAL DISCLOSURE

The purpose of the new facility to be constructed is to improve the quality of the black superphosphoric acid (SPA) currently being produced by Farmland Industries, Inc., at their Bartow, Florida, manufacturing facility. The new facility to be added uses a proprietary downstream oxidation process developed by Farmland Researchers. The enhanced physical and chemical properties of the SPA resulting from this additional treatment is of benefit to Farmland Industries and its customers who are involved in the manufacture and use of high analysis liquid fertilizers produced from this product.

The facility to be constructed is intended to chemically reduce the carbon content of SPA and to stabilize certain metallic impurities contained in the acid. The process will operate in a continuous manner utilizing several reaction vessels. The process is exothermic and causes the liberation of steam and certain other gaseous reaction products including NOx and Fluorides. All offgases from the process will pass through a scrubbing system designed to reduce the Fluoride gases evolved in the process to a de minimus level before discharge to the atmosphere.

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- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

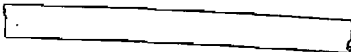
- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.



j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate

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ATTACHMENT G. - GENERAL DISCLOSURE

Page 2.

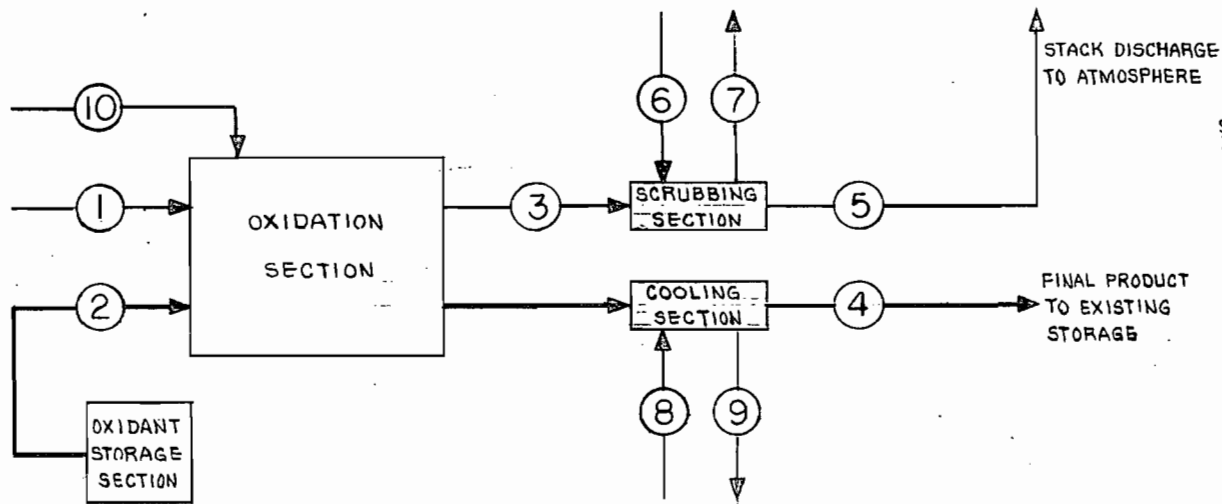
The chemical reactions and process technology used in this process are of a proprietary nature and currently the active subject of a United States patent application. Further disclosure of the reactants used, chemical reactions understood to occur, and process technology employed are discussed further in a separate and confidential disclosure statement attached to this application.

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PROCESS FLOW DIAGRAM - FOR ATTACHMENT G.



STREAM NUMBER	DESCRIPTION
1	OXIDIZING AGENT
2	SUPERPHOSPHORIC ACID (SPA)
3	OXIDATION OFF GAS
4	OXIDIZED SPA
5	PROCESS GAS TO ATMOSPHERE
6	INLET SCRUBBER H ₂ O
7	OUTLET SCRUBBER H ₂ O
8	NON-CONTACT COOLING WATER
9	NON-CONTACT COOLING WATER
10	AIR INFILTRATION

FARMLAND INDUSTRIES, INC.
BARTOW, FLORIDA

TITLE SIMPLIFIED PROCESS FLOW DIAGRAM
SUPERPHOSPHORIC ACID OXIDATION UNIT

NO	DATE	REVISIONS	BY	APP.

DRAWN BY
D-HOP

CHECKED BY

APPROVED BY

SCALE

DATE
3-7-87

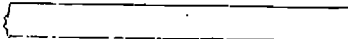
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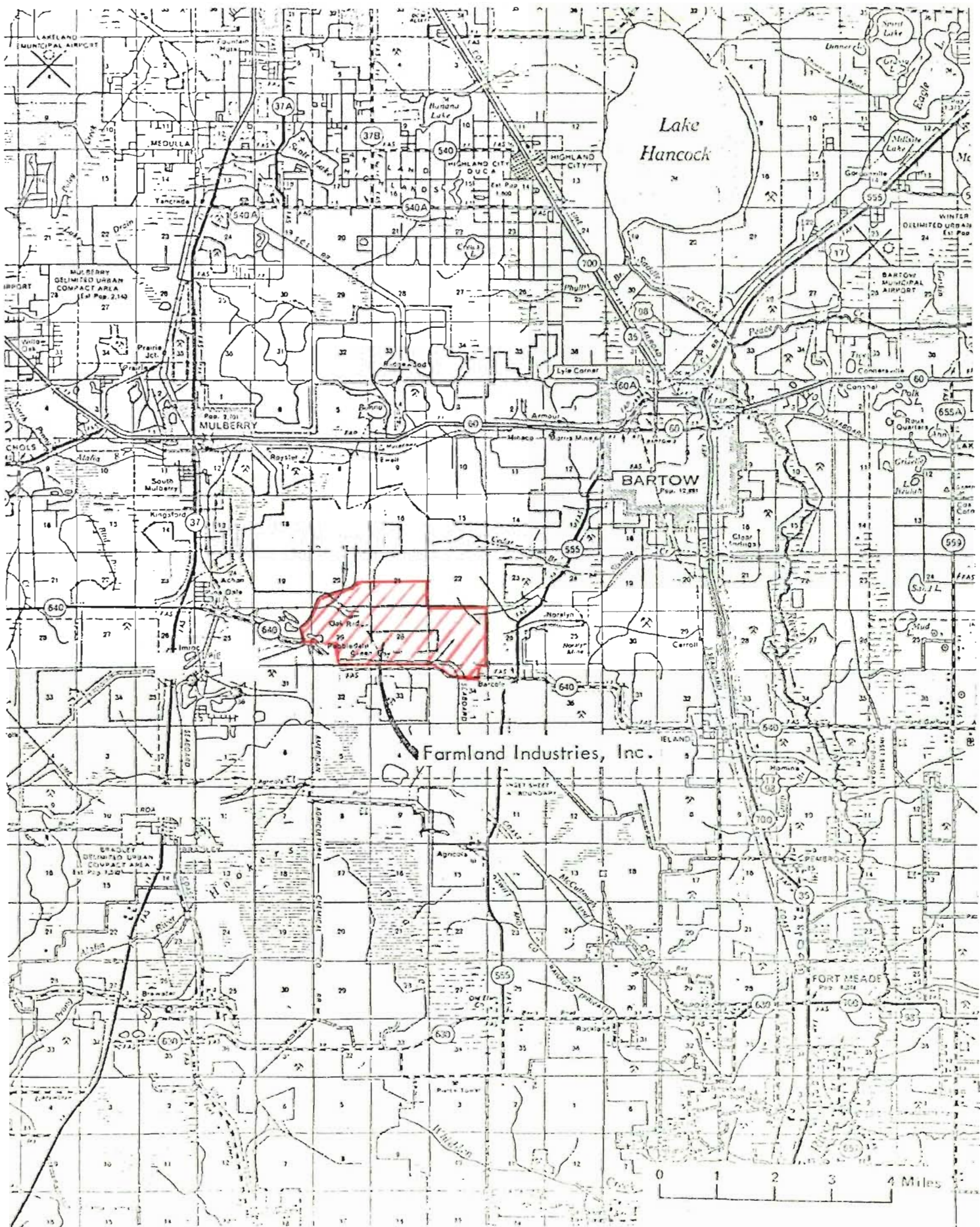
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Farmland Industries, Inc. Site. LOCATION

FIGURE 1.

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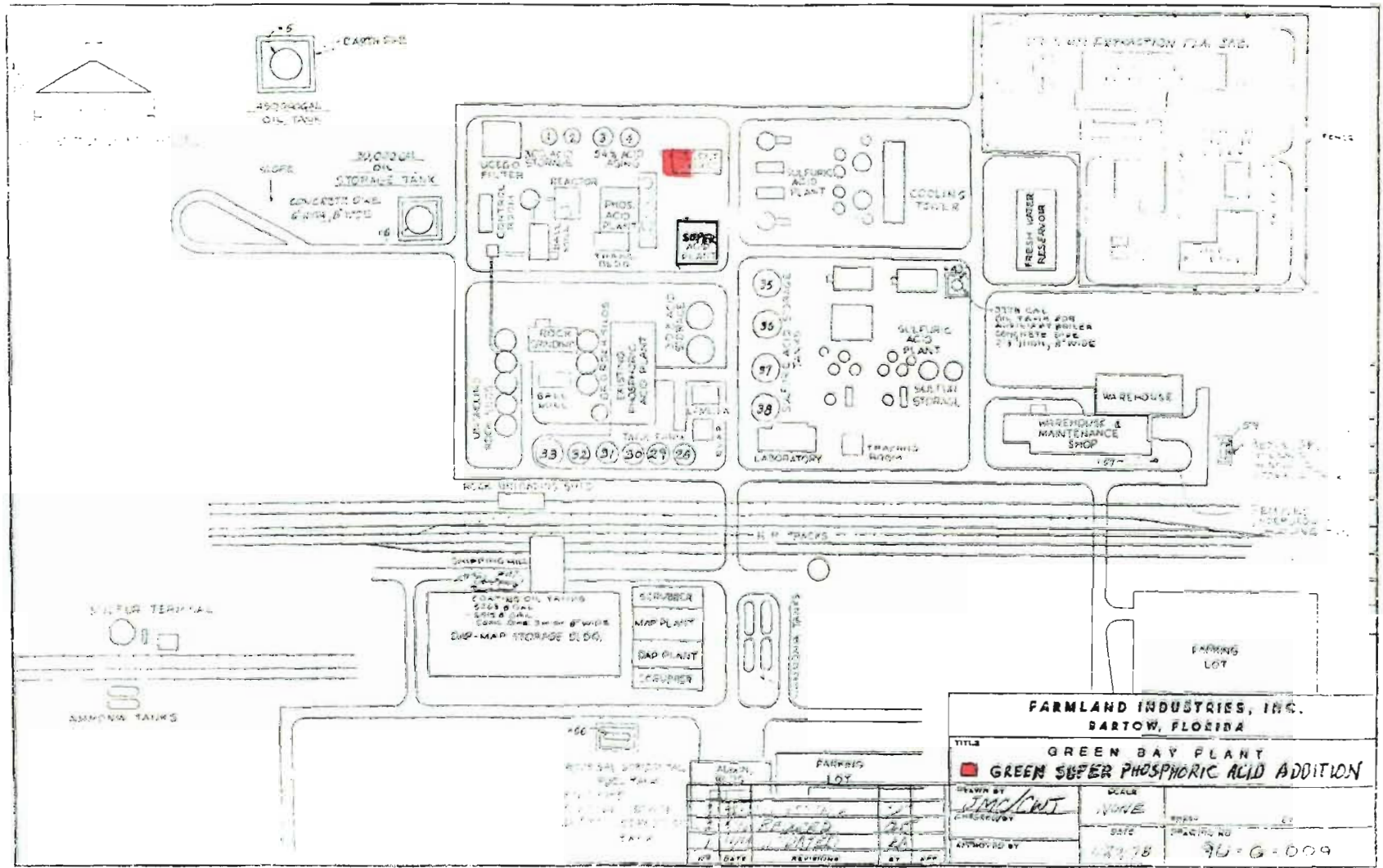


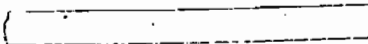
FIGURE 2.

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3 E



(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION NOT APPLICABLE

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

PROPRIETARY INFORMATION

OF

FARMLAND INDUSTRIES, INC.

U.S. PATENT APPLIED FOR

DO NOT DISCLOSE

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ATTACHMENT H.

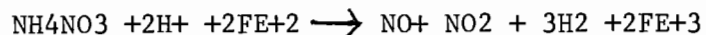
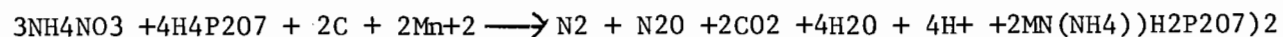
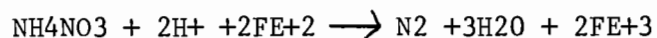
PROPRIETARY DISCLOSURE : PROCESS DESCRIPTION

The intended manufacturing process will be capable of processing approximately 450 tons per day of P₂O₅ as superphosphoric acid.

The facility to be constructed is intended to chemically oxidize black superphosphoric utilizing a liquid oxidant containing eighty three weight percent ammonium nitrate (83% NH₄NO₃) and seventeen weight percent water (17% H₂O). The oxidant will be added to the SPA in two continuous stirred tank reactors operated in series. A final tank will be utilized to provide sufficient time for the acid oxidation state to stabilize and all reactions to go to completion as well as provide product surge storage. All of the above vessels will operate under a negative pressure imposed by a gas collection system.

The reaction chemistry involved is very complex due to: (1) The number of reactive species present; (2) the number of reaction steps which take place in accomplishing the overall reactions and; (3) the elusive nature of NO_x chemistry. Although not fully understood a summary of the significant overall reactions which take place are as follows:

PRINCIPAL REACTIONS



The resulting oxidation removes suspended and soluble carbon compounds contained in the SPA which cause its black color and increase its viscosity. The oxidation process also elevates and stabilizes the oxidation state of

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certain metallic impurities which contaminate the acid and many times cause problems in downstream processing. The resulting product when converted into liquid fertilizer is clear and green in appearance and has improved storage and handling properties.

The gaseous reaction products and vapors resulting from the oxidation reaction will be conveyed through a proprietary oxidation recovery step in order to completely use the oxidation potential of the reactor offgases. The reaction gases and vapors exiting the oxidation section are understood to be composed principally of N₂, CO₂, and H₂O vapor. The gases are at this point also contaminated with lesser amounts of NO_x and Fluorine gases.

NO_x species in the offgas are understood to be the result of oxidant decomposition and certain undesirable side reactions which occur during processing and escape in-situ abatement. No known acceptable technology exists at this time for the practical abatement of these NO_x species. As a result a concentrated effort has been made in the research and test work performed by Farmland to achieve an acceptable level of NO_x by-product in the front end oxidation reactors. The oxidant used was selected solely for its optimal performance in yielding a low level of NO_x formation. The Ammonium Ion introduced with the Nitrate oxidant has no known beneficial effect on the oxidation process other than the in-situ abatement of NO_x oxidation products. Use of Ammonium Nitrate allows that over 97% of the NO₃ ion used is ultimately converted to N₂ gas with the remaining 3% appearing as NO_x species. Prior research involving oxidation of superphosphoric

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acid with nitric acid produced NO₃ to N₂ conversion of less than 80% with a resulting NO₃ to NO_x conversion of over 20%. This in-situ scrubbing effect and the process conditions which optimize it, constitute a major feature of the discovery made by Farmland and as such distinguishes this proprietary process over all prior art. This is substantiated by the fact that no other commercial attempt has been made to date to exploit the known benefits of superacid oxidation technology.

Fluoride species present in the reaction gases are due to gas stripping of Fluoride species present in the SPA. This mechanism is similar to other stripping processes which have been known for many years to occur in the manufacture and evaporation of wet process phosphoric acid. To control the emissions of Fluorides, the gas exiting the oxidation section will be conveyed to a Fluorine scrubbing system which uses process cooling water to remove condensible vapors and simultaneously remove Fluorine species from the process gas. Course water sprays will be used in a flooded scrubbing environment in order to minimize liquid droplet entrainment and improve separation efficiency. The process gases will be transported to a process stack via a centrifugal fan and then exhausted to the atmosphere.

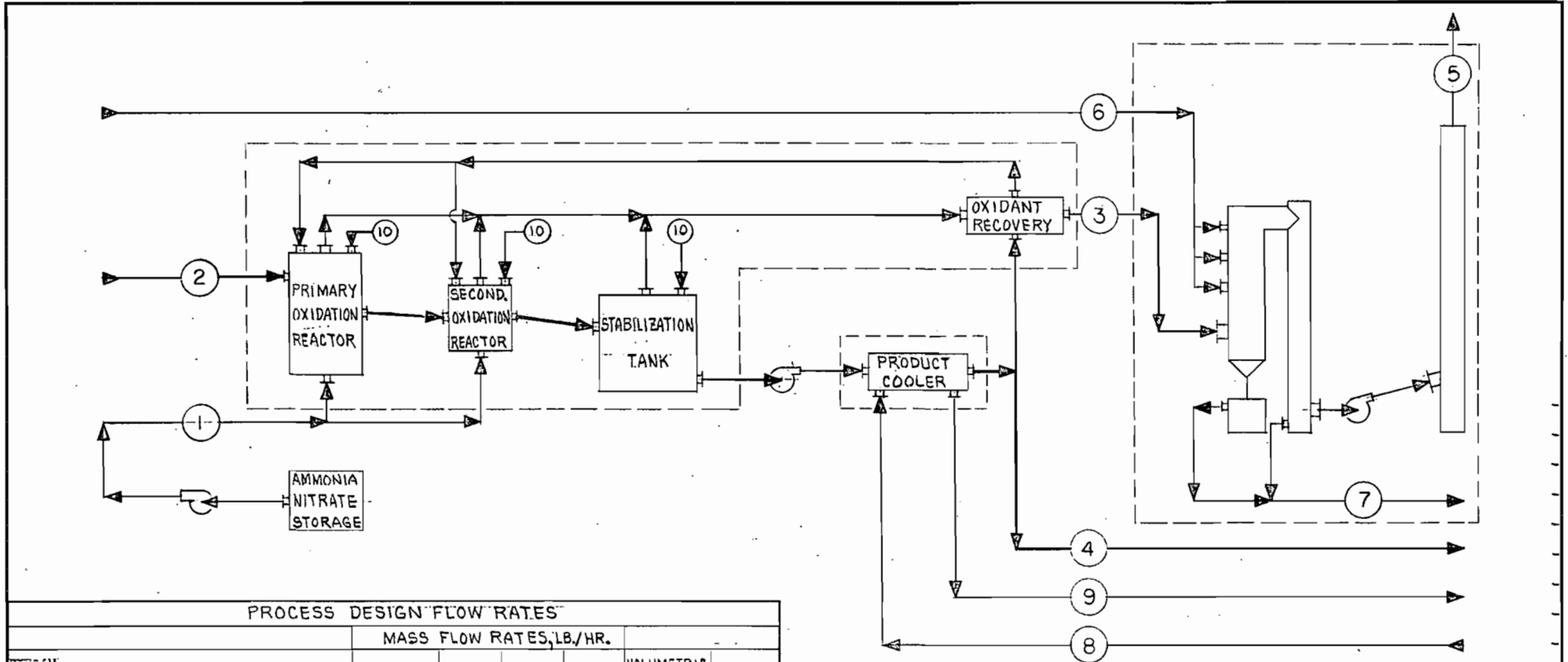
The stabilized SPA product will be cooled in a non-contact shell and tube heat exchanger and will then be stored in an existing SPA storage tank adjacent to FIIS current rail car loading facilities.

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PROCESS FLOW DIAGRAM - FOR ATTACHMENT H.



PROCESS DESIGN FLOW RATES					
STREAM NO.	DESCRIPTION	MASS FLOW RATES, LB./HR.			VOLUMETRIC FLOW RATE
		TOTAL	P ₂ O ₅	F	
1	183% AMMONIA NITRATE SOLUTION	3,250			4.7 GPM.
2	SUPERPHOSPHORIC ACID (SPA)	53,956	37,500	161.9	54 GPM.
3	OXIDATION OFF GAS	2,959+AIR		45	
4	OXIDIZED SPA	54,247	37,500	116.9	54.2 GPM.
5	PROCESS GAS TO ATMOSPHERE	1,630+AIR		0.2	40.5 ≈ 34,000 DSCF/HR.
6	INLET SCRUBBER H ₂ O	159,688		431	319 GPM.
7	OUTLET SCRUBBER H ₂ O	161,017		475.8	322 GPM.
8	NON-CONTACT COOLING WATER	53,956			108 GPM.
9	NON-CONTACT COOLING WATER	53,956			108 GPM.
10	AIR INFILTRATION	≈ 1200 OUTSIDE AIR			≈ 15,000 DSCF/HR.

FARMLAND INDUSTRIES, INC.
BARTOW, FLORIDA

TITLE
PROPRIETARY DISCLOSURE OF PROCESS FLOW DIAGRAM
SUPERPHOSPHORIC ACID OXIDATION UNIT

DRAWN BY D-HOP	SCALE 1/4"	SHEET OF
CHECKED BY	DATE	
APPROVED BY	8-7-87	DRAWING NO.

NO.	DATE	REVISIONS	BY	APP.

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20-56
NO_x (Fampa)
annual av. fn mean $\mu\text{g}/\text{m}^3$

FARMLAND - SPA

BORDERLINE NO_x CREDIT ?

$$1.5 \text{ lb NO}_x / \text{ton SPA} \times 53,956 \frac{\text{lb SPA}}{\text{hr}} \div 2000 = 40.47 \text{ lb NO}_x / \text{hr}$$

$$40.5 \text{ lb/hr} \times 4.38 \times \frac{4448}{8760} = 90.07 \text{ TPY}$$

OFFSET - H₂SO₄ (No. 1 & 2) 50.4 90.1 - 50.4 = 39.7 TPY

KROGLER'S NO_x EMISSION FACTOR = $2.1 (10)^{-6} \text{ lb NO}_x / \text{dscf}$

REFERENCE: IMC - NEW WALES THIRD TRAIN EXPANSION: $2.1 (10)^{-6} \text{ lb NO}_x / \text{scf}$
2000 TPD Double Absorption Contact (field measurements)

AP 42: FUEL BURNING SOURCE: 20 lbs NO_x / 1000 gal fuel.

18 ppm vs. 100 - 200 ppm for boiler flue gases.

$$53956 = 26.98 \text{ Tons SPA/hr IN containing } \frac{37,500}{2000} \text{ Tons P}_2\text{O}_5 \text{ / hr} \leftarrow 70\% \text{ P}_2\text{O}_5$$

1-19-88

Fairland

Modification

Offsets - business picture changed - startup ^{at least one of old} Phos Acid Plants
DAP - Phos Acid prod. up industry wide

- startup one of H₂SO₄ plants - run for a while (4-5 mo.)
may overlap startup with GSP
- have not started GSP Plant - Feb or later

- ① Delay startup of GSP so that no overlap occurs
- ② Test GSP after startup and if NOx is substantially less than permitted, use excess for H₂SO₄ plant,
- ③ Variance for 6 mos.
- ④

To John Reynolds
 Date 1/15 Time 11:45

WHILE YOU WERE OUT

By Ed Pato
 of _____
 Phone 813-533-1141
Area Code Number Extension

<input type="checkbox"/>	TELEPHONED	<input type="checkbox"/>	PLEASE CALL
<input type="checkbox"/>	CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN
<input type="checkbox"/>	WANTS TO SEE YOU	<input type="checkbox"/>	URGENT
<input type="checkbox"/> RETURNED YOUR CALL			

Message Call before 5:00 pm

 Marcia
 Operator