

MEMORANDUM

TO: Marty Costello, FDEP
FROM: Pradeep Raval
DATE: August 24, 1995
SUBJECT: Extension of 90 Day Time Limit
IMC-Agrico Company

This is a follow up to our conversation yesterday regarding waiver of the 90 day limit for all the IMC-Agrico Company permit amendment applications.

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

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

par.
enc.

c: C. D. Turley, IMC-Agrico



ATTACHMENT 1

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

IMC-AGRICO COMPANY
POLK COUNTY, FLORIDA

Item	Unit/Operation	Construction Permit No.
<u>NEW WALES PLANT</u>		
1.	SAP 1	AC53-192221
1.	SAP 2	AC53-192221
1.	SAP 3	AC53-192221
1.	SAP 4	AC53-192221
1.	SAP 5	AC53-192221
<u>SOUTH PIERCE PLANT</u>		
1.	SAP 10	AC53-199112
1.	SAP 11	AC53-199112
<u>NICHOLS PLANT</u>		
1.	DAP Dryer	AC53-232681 PSD-FL-204
2.	SAP 1	AC53-230355 PSD-FL-204





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: IMC-Agrico Company

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 September 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.



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

KA 124-95-02

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
IMC-Agrico Company

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 IMC-Agrico sources. The information provided below is in the order of the amendments evaluated by FDEP.

NEW WALES PLANT

Sulfuric Acid Plants 1-5, PSD-FL-170

1. Please provide the EPA Suggested Emissions Netting Procedure (page A. 44 of NSR Workshop Manual), to demonstrate that net emissions of NO_x were below the significant levels at the time of the proposed modifications from PSD-FL-170.

RESPONSE:

Using an abbreviated version of the netting procedure outlined in the NSR Workshop Manual, utilized by FDEP in PSD-FL-170, the revised net NO_x emissions increase based on 1991-1994 emission data available from source sampling (average for the period) is as follows:

Actual Emissions

SAP 1: NO_x = 985,500 tpy acid x 0.079 lb NO_x/ton acid x ton/2000lbs
= 38.9 tpy

SAP 2: NO_x = 985,500 tpy acid x 0.083 lb NO_x/ton acid x ton/2000lbs
= 40.9 tpy

SAP 3: $\text{NO}_x = 985,500 \text{ tpy acid} \times 0.072 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 35.5 \text{ tpy}$

SAP 4: $\text{NO}_x = 1,003,750 \text{ tpy acid} \times 0.073 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 36.6 \text{ tpy}$

SAP 5: $\text{NO}_x = 1,003,750 \text{ tpy acid} \times 0.079 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 39.6 \text{ tpy}$

Proposed Emissions

Assume that the emissions from all five plants reflect the highest NO_x emission rate from above (1991-1994 test data reference period).

SAP 1-5: $\text{NO}_x = 5,292,500 \text{ tpy acid} \times 0.083 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 219.6 \text{ tpy}$

Net Emissions

As there were no other contemporaneous NO_x emissions, the net emissions increase is simply the difference in the actual and proposed emissions:

SAP 1-5: $\text{NO}_x = 219.6 - (38.9 + 40.9 + 35.5 + 36.6 + 39.6) \text{ tpy}$
 $= 28.1 \text{ tpy}$

This net emissions increase is less than the PSD significant emission level of 40 tpy.

DAP 2 East & West Trains

The request for amendment of AC53-118671, for DAP 2 (East & West Trains), is hereby withdrawn.

SOUTH PIERCE PLANT

Sulfuric Acid Plants 10 & 11, PSD-FL-179

Using FDEP's abbreviated netting procedure (conducted above), the revised net NO_x emissions increase based on 1991-1994 emission data available from source sampling (average for the period) is as follows:



Actual Emissions

SAP 10: $\text{NO}_x = 730,000 \text{ tpy acid} \times 0.092 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 33.6 \text{ tpy}$

SAP 11: $\text{NO}_x = 730,000 \text{ tpy acid} \times 0.086 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 31.4 \text{ tpy}$

Proposed Emissions

Assume that the emissions from both plants reflect the highest NO_x emission rate from above (1991-1994 test data reference period).

SAP 10-11: $\text{NO}_x = 1,971,000 \text{ tpy acid} \times 0.092 \text{ lb NO}_x/\text{ton acid} \times \text{ton}/2000\text{lbs}$
 $= 90.7 \text{ tpy}$

Net Emissions

As there were no other contemporaneous NO_x emissions, the net emissions increase is simply the difference in the actual and proposed emissions:

SAP 10-11: $\text{NO}_x = 90.7 - (33.6 + 31.4) \text{ tpy}$
 $= 25.7 \text{ tpy}$

This net emissions increase is less than the PSD significant emission level of 40 tpy.

NICHOLS PLANT

DAP Dryer, AC53-232681, PSD-FL-204

The request for amendment of AC53-232681, for the DAP Plant, is hereby withdrawn, except for clarification of Specific Condition No. 5.

As worded currently, SC No. 5 requires performance testing for ammonia and subsequent air dispersion modeling of the emissions to demonstrate compliance with the FDEP Air Reference Concentration (FARC). IMC-Agrico, FDEP and EPA staff are all aware of the shortcomings of the draft ammonia sampling method and it's positive bias for a source such as the DAP plant. In response to FDEP's suggestion, IMC-Agrico is willing to conduct the required (one-time) ammonia sampling. However, it is requested that the requirement to conduct air dispersion modeling be deleted from SC No. 5 as that effort is not justified given the bias in the ammonia emission rate measurement.



Mr. Clair H. Fancy
Florida Department of
Environmental Protection

August 21, 1995
Page 4

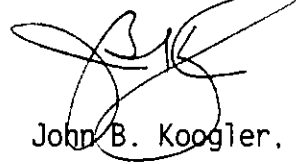
Furthermore, FDEP's air toxics guidance indicates that a FARC can be exceeded so long as the pollutant emissions are controlled using BACT. In the case of the DAP Plant, the pollution controls presently in place constitute BACT pursuant to FDEP's BACT determination for PSD-FL-204.

Given the reasons stated above, it is requested that no sampling be required for ammonia. If a one-time test is required, then no subsequent air dispersion modeling should be required.

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: Dave Turley, IMC-Agrico
Jerry Girardin, IMC-Agrico
Gerald Kissel, FDEP Tampa



MEMORANDUM

RECEIVED

JUN 27 1995

Bureau of
Air Regulation

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 IMC-Agrico Company'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. D. Turley, IMC-Agrico





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: IMC-Agrico Company

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.

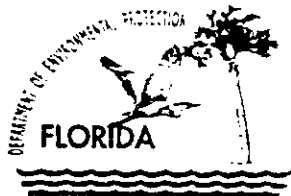
ATTACHMENT 1

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

IMC-AGRICO COMPANY
POLK COUNTY, FLORIDA

Item	Unit/Operation	Construction Permit No.	
<u>NEW WALES PLANT</u>			
1.	SAP 1	AC53-192221	
1.	SAP 2	AC53-192221	
1.	SAP 3	AC53-192221	
1.	SAP 4	AC53-192221	
1.	SAP 5	AC53-192221	
<u>SOUTH PIERCE PLANT</u>			
1.	SAP 10	AC53-199112	
1.	SAP 11	AC53-199112	
<u>NICHOLS PLANT</u>			
1.	DAP Dryer	AC53-232681	PSD-FL-204
2.	SAP 1	AC53-230355	PSD-FL-204





Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

June 7, 1995

John B. Koogler, Ph.D., P.E.
Koogler & Associates Environmental Services
4014 Northwest Thirteen Street
Gainesville, Florida 32609

Dear Dr. Koogler:

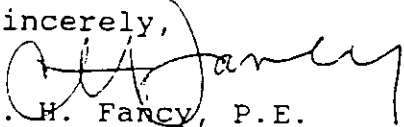
Subject: Requests to Remove NO_x Limits and Testing Requirements
from Sulfuric Acid Plants, IMC-Agrico (PSD-FL-170) and
Farmland Hydro (PSD-FL-143)

Additional information is requested to aid the Department in making a final determination on the above requests. You indicated that based on stack test data, the subject emissions units should not have required PSD review for NO_x. Please provide the EPA Suggested Emissions Netting Procedure (page A.44 of NSR Workshop Manual), to demonstrate that net emissions of NO_x were below significant levels at the time of the proposed modifications from the above referenced PSD permits.

Please evaluate the sulfuric acid plants prior to the above referenced modifications (each PSD permit listed above), for PSD applicability. For the five sulfuric acid plants at the IMC-Agrico New Wales facility, please provide the dates of initial construction and apply the emissions netting procedure for each of these units that were installed after August 7, 1980 to determine PSD applicability at the time these units were installed. For the Farmland Hydro No. 5 SAP, please consider the initial construction and later modification to increase production to 2,400 TPD as phased projects which should be counted together for PSD applicability purposes.

If you have questions, please contact Martin Costello at (904)488-1344 or write to me at the above address.

Sincerely,


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

CHF/mc/c

cc: Martin Costello ✓

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 IMC-Agrico Company'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. D. Turley, IMC-Agrico

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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

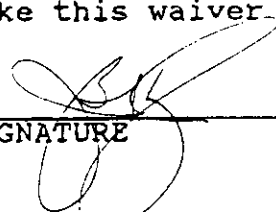
Applicant's Name: IMC-Agrico Company

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

F-1

Bureau of
Air Regulation

ATTACHMENT 1

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

IMC-AGRICO COMPANY
POLK COUNTY, FLORIDA

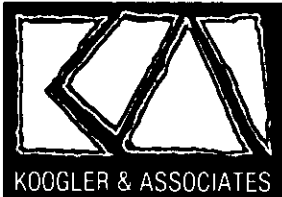
Item	Unit/Operation	Construction Permit No.
<u>NEW WALES PLANT</u>		
1.	DAP 2 East Train	AC53-118671
1.	DAP 2 West Train	AC53-118671
2.	SAP 1	AC53-192221
2.	SAP 2	AC53-192221
2.	SAP 3	AC53-192221
2.	SAP 4	AC53-192221
2.	SAP 5	AC53-192221
<u>SOUTH PIERCE PLANT</u>		
1.	SAP 10	AC53-199112
1.	SAP 11	AC53-199112
<u>NICHOLS PLANT</u>		
1.	DAP Dryer	AC53-232681 PSD-FL-204
2.	SAP 1	AC53-230355 PSD-FL-204

RECEIVED

JUN 2 1990

Bureau of
Air Regulation





ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

... KA 124-94-05

March 14, 1995

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
IMC-Agrico Company
Nichols Plant
Permit Amendment Requests

RECEIVED
MAR 15 1995
Bureau of
Air Regulation

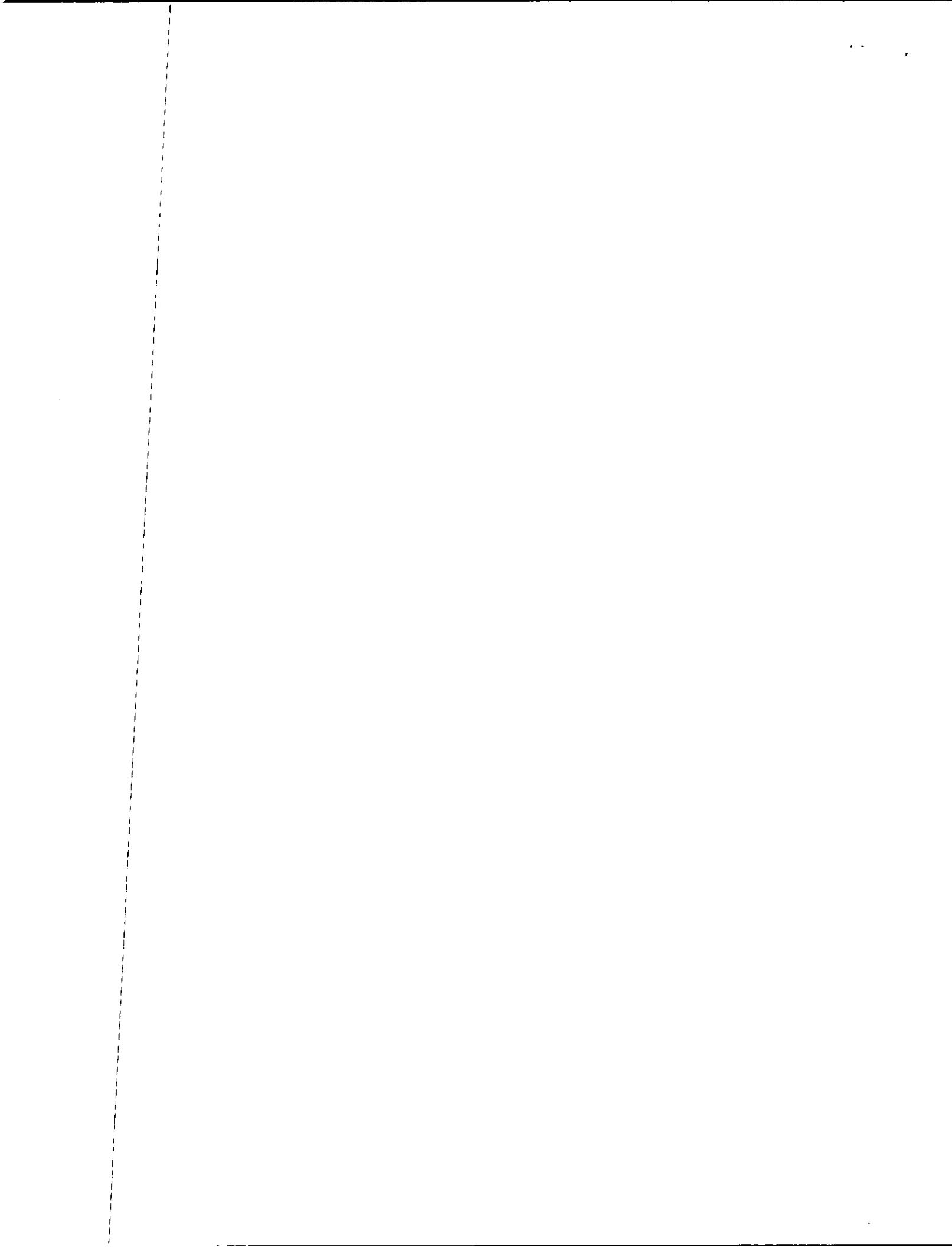
Dear Mr. Linero:

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 IMC-Agrico as well as the compilation of Title V permit conditions by FDEP. Thus, only valid applicable requirements will remain in the source permits.

IMC-Agrico has several air operation (and the preceding construction) permits which contain emission limitations outside of the above FDEP criteria. Often, emission estimates/fuel specifications stated in the application for information purposes were then imposed as permit limitations. 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. For permits issued by FDEP's Tampa office, a request for amendment is simultaneously being submitted to that office. The amendment request for construction permits issued by the Bureau of Air Regulation (BAR) is 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.	Other Permit No.
1.	DAP Dryer	A053-180230 (DT)	AC53-232681 (T)	PSD-FL-204
	Rock Dryer	A053-232720 (D)	AC53-2098 (D)*	
2.	SAP 1	A053-255206 (DT)	AC53-230355 (T)	PSD-FL-204
	Standby Boiler N.	A053-227688 (D)	AC53-2521 (D)*	A053-147502
	Standby Boiler S.	A053-227690 (D)	AC53-2522 (D)*	A053-147501

NOTES:

- (D) Operation permit amendment expected from FDEP District office.
- (DT) Permit amendment expected from FDEP District office after the construction permit amendment is issued by BAR in Tallahassee.
- (T) Construction permit amendment expected from BAR in Tallahassee.

A check in the amount of \$500 (permit amendment 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.D. Turley, IMC-Agrico
G. Kissel, FDEP Tampa

S. Arif
C. Nelladay
J. Raval, Polk Co.
G. Ruppel, EPA
G. Bunnick, NPS



ATTACHMENT 1

Unit/Operation : DAP Plant
Permit No. : AC53-232681, PSD-FL-204

Amendment Request

The above referenced permit contains an sulfur limitation of 0.5% for No. 2 fuel oil, and, a testing requirement for ammonia. To our knowledge, these requirements are not based on a regulatory standard, nor do they reflect limitations requested by IMC-Agrico to avoid a specific rule applicability (e.g. PSD, etc.). Although the fuel oil sulfur content is mentioned in the BACT discussion, it is not listed under the BACT as determined by the Department. It should be noted that this sulfur content reflects the typical market specification for No. 2 fuel oil.

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

Page 6, Specific Condition No. 5:

Delete this specific condition which contains emission testing requirement for ammonia.

Page 6, Specific Condition No. 6:

Delete the reference to the fuel oil sulfur content in this specific condition.

Page 7, Specific Condition No. 10:

Delete the requirement for testing ammonia in this specific condition.





Florida Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
IMC-Agrico Company
P. O. Box 1035
Mulberry, Florida 33860

Permit Number: AC53-232681
PSD-FL-204
Expiration Date: Jan. 1, 1996
County: Polk
Latitude/Longitude: 27°52'51"N
82°01'55"W

Project: Diammonium
Phosphate Plant - Production
Increase to 100 TPH

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 272, 275, 296, 297; 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 and specifically described as follows:

For an increase in production to 100 TPH in the diammonium phosphate plant. This source is located at the permittee's existing facility in Nichols, Polk County, Florida. The UTM coordinates are Zone 17, 398.4 km East and 3084.2 km North.

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

*This permit is void if construction does not commence within 18 months of its issuance, if construction is discontinued for more than 18 months, or if construction is not completed and the modified plant placed in operation within a reasonable time.

Attachments are listed below:

1. IMC-Agrico's application received April 28, 1993.
2. DEP's letter dated May 26, 1993.
3. IMC-Agrico's letter dated June 4, 1993.
4. Koogler & Associates' letter dated July 30, 1993.
5. Fish & Wildlife Service letter dated February 28, 1994.

PERMITTEE:
IMC-Agrico Company

Permit Number: AC 53-232681
PSD-FL-204
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

4. Testing for PM/PM₁₀ and fluoride shall be done on all three stacks within a consecutive 5-day period without changing the production and raw materials rates. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impracticable to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. The Department's Southwest District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to that office within 45 days of test completion.

5. Compliance testing using the enclosed EPA draft method or an equivalent method which meets FDEP approval shall be conducted on all three stacks within a consecutive 5-day period without changing the production rates or raw materials to determine NH₃ emissions in ppm and lb/hr from the DAP plant. The Department shall be provided with the test results, and a professional engineer's evaluation shall be required using NH₃ emission data from the tests and FDEP/EPA-approved modeling procedures to confirm that the NH₃ ambient impacts from the DAP plant will not exceed the NH₃ annual air reference concentration (ARC) of 100 ug/m³. Should the air dispersion modeling predict an exceedance of the annual ammonia ARC, the allowable ammonia emission rates for the DAP plant shall be reduced to a level that prevents the exceedance of the annual ammonia ARC (100 ug/m³).

6. Only natural gas or No. 2 fuel oil shall be used in the drying operation. The No. 2 fuel oil shall contain no more than 0.5% sulfur, by weight. The maximum heat input rate to the dryer is limited to 16 MMBtu/hr.

7. Visible emissions shall be less than 20% opacity.

8. Fugitive emissions from the process shall be controlled by sealing and/or venting all particulate matter and fumes from the equipment to the pollution abatement system.

9. Pursuant to 40 CFR 60.223, the permittee shall comply with the following requirements for the monitoring of the DAP plant:

(a) The permittee shall calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of $\pm 5\%$ over its operating range.

PERMITTEE:
IMC-Agrico Company

Permit Number: AC 53-232681
PSD-FL-204
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

(b) The permittee shall maintain a daily record of equivalent P₂O₅ feed by first determining the total mass rate in tons/hour of phosphorous-bearing feed using a monitoring device for determining mass flow rate which meets the requirements of Paragraph (a) above and then by processing according to §60.224(b)(3).

(c) The permittee shall calibrate, maintain and operate a monitoring device which continuously measures and permanently records total pressure drop across each scrubber system. The monitoring device shall have an accuracy of $\pm 5\%$ over its operating range.

10. Before the construction permit expires, the DAP plant shall be tested for PM/PM₁₀, fluoride, and visible emissions. Test procedures shall be in accordance with EPA reference methods 1, 2, 3, 4, 5, 9, and 13A or 13B as published in 40 CFR 60, Appendix A, (July, 1993). Ammonia emissions shall be determined using the enclosed EPA Draft Method or an equivalent method which meets FDEP approval.

11. 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 of the permit (F.A.C. Rule 17-4.090).

12. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 13th day
of April, 1994

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Virginia B. Wetherell
Virginia B. Wetherell, Secretary

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

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

BACT Determined by the Department:

Control Technology	Venturi acid scrubbing/Venturi reclaim water scrubbing
Pollutant:	Emission Limits:
PM/PM ₁₀ *	0.41 lb/ton P ₂ O ₅ (19.8 lb/hr, 86.7 TPY)
Fluoride*	0.0417 lb/ton P ₂ O ₅ (2.0 lb/hr, 8.8 TPY)
Visible Emissions	20% opacity

* The emissions are prorated among the granulator, dryer, and cooler stacks based on the test data submitted in Table 2-2 of the application.

TABLE 1
EMISSIONS

<u>Source</u>	<u>Lbs/Hr</u>	<u>Fluorides</u> <u>Lbs/TP₂O₅</u>	<u>Ton/Yr</u>	<u>Lbs/Hr</u>	<u>Particulate</u> <u>Lbs/TP₂O₅</u>	<u>Ton/Yr</u>
Reactor/ Granulator	1.7	0.0354	7.5	10.1	0.21	44.2
Dryer	0.2	0.0040	0.9	7.3	0.15	32.0
Cooler	<u>0.1</u>	<u>0.0023</u>	<u>0.4</u>	<u>2.4</u>	<u>0.05</u>	<u>10.5</u>
Total	2.0	0.0417	8.8	19.8	0.41	86.7

BACT Determination Rationale

The Department's BACT determination is more stringent than that proposed by the applicant and is consistent with compliance test results for the DAP plant done between 1980 - 1993. The Department's proposed fluoride emission limit is also more stringent than prior BACT limits set for other diammonium phosphate plants. The proposed particulate matter emission limit reflects a particulate removal efficiency of over 90%. No. 2 fuel oil sulfur content has been limited at 0.5%, by weight in similar BACT determinations for modifications of existing facilities. Therefore, the Department is in agreement with the applicant's proposed sulfur content.

Conclusion


The impacts associated with the proposed increase in production support the Department's determination that the emission limits established herein represent BACT.

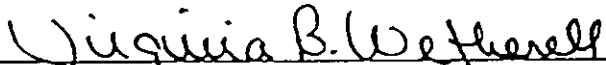
Details of the Analysis May be Obtained by Contacting:

Douglas G. Outlaw, BACT Coordinator
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:


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


Virginia B. Wetherell, Secretary
Dept. of Environmental Protection

Date

April 6 1994

Date

April 13 1994

ATTACHMENT 2

Unit/Operation : Sulfuric Acid Plant 1
Permit No. : AC53-230355, PSD-FL-204

Amendment Request

The above referenced permit contains an emission limitation for nitrogen oxides. To our knowledge, the NOx limit in the permit is not based on a regulatory standard, nor does it reflect a limitation requested by IMC-Agrico to avoid a specific rule applicability (e.g. PSD, etc.).

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

Page 5, Specific Condition No. 4:

Delete this specific condition which contains emission limits for NOx.

Page 6, Specific Condition No. 6:

Delete the NOx testing requirement from this specific condition and the corresponding reference to EPA Method 7E.





Florida Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
IMC-Agrico Company
Post Office Box 1035
Mulberry, Florida 33860

Permit Number: AC 53-230355
PSD-FL-204
Expiration Date: Jan. 1, 1996
County: Polk
Latitude/Longitude: 27°52'51"N
82°01'55"W
Project: Sulfuric Acid Plant and
Molten Sulfur Storage
and Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-210, 212, 272, 296 and 297; 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:

For the modifications to increase the sulfuric acid plant production to 2500 TPD 100% sulfuric acid and sulfur feed rate to a maximum of 1000 TPD and 365,000 TPY for the sulfuric acid plant. The sulfur facility consists of a rail and truck unloading system; one 2430 short ton (ST) molten sulfur north storage tank; one 1125 ST molten sulfur south storage tank; one 195 ST rail pit; one 165 ST truck pit; and the associated transfer pumps and piping. The modifications do not involve physical change to these plants. The sources are located at the IMC-Agrico Nichol's facility on CR 676 near Nichols, Polk County, Florida. The UTM coordinates of this facility are Zone 17, 398.4 km E and 3084.2 km N.

*This permit is void if construction does not commence within 18 months of its issuance, if construction is discontinued for more than 18 months, or if construction is not completed and the modified plant placed in operation within a reasonable time.

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

Attachments are listed below:

1. IMC-Agrico's application received April 28, 1993.
2. DEP's letter dated May 26, 1993.
3. IMC-Agrico's letter dated June 4, 1993.
4. Koogler & Associates' letter dated July 30, 1993.
5. Fish & Wildlife Service letter dated February 28, 1994.

PERMITTEE:
IMC-Agrico Company

Permit Number: AC53-230355
PSD-FL-204
Expiration Date: January 1, 1996

GENERAL CONDITIONS:

for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

1. The maximum production rate of the sulfuric acid plant shall not exceed 2500 tons per day based on 100% sulfuric acid (H_2SO_4).
2. Sulfur dioxide (SO_2) emissions from the plant shall not exceed 4 lbs/ton of 100% H_2SO_4 , 416.8 lbs/hr, and 1825.6 tons/yr.
3. H_2SO_4 mist emissions from the plant shall not exceed 0.15 lb/ton of 100% H_2SO_4 produced, 15.6 lbs/hr, and 68.5 tons/yr.
4. Nitrogen oxides, (NO_x) emissions from the plant shall not exceed 0.12 lb/ton of 100% H_2SO_4 produced, 12.5 lbs/hr, and 54.8 tons/yr. The nitrogen oxides limits based on a general emission factor, are subject to revision if sufficient test data indicate that the emission factor is improper.
5. Visible emissions (VE) from the H_2SO_4 plant shall not exceed 10% opacity. VE shall not exceed 20% opacity from any source in the molten sulfur system.

PERMITTEE:
IMC-Agrico Company

Permit Number: AC53-230355
PSD-FL-204
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

6. A continuous emission monitor shall be used to monitor SO₂ emissions from the H₂SO₄ plant in accordance with 40 CFR 60, Subpart H (July 1, 1992), Standards of Performance for Sulfuric Acid Plants. Initial compliance tests shall be conducted using: EPA Method 7E for NO_x, EPA Method 8 for SO₂ and acid mist, and EPA Method 9 for visible emissions as described in 40 CFR 60, Appendix A (July 1, 1993).

7. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of permitted capacity (2250 - 2500 TPD sulfuric acid production). If it is impracticable to test at capacity, then sources may be tested at less than capacity. In this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. The Department's Southwest District office shall be notified in writing 15 days prior to source testing. Written reports of the tests shall be submitted to that office within 45 days of test completion.

8. The sulfuric acid plant and the molten sulfur storage and handling facility shall be allowed to operate continuously (i.e., 8760 hours/year).

9. The maximum molten sulfur feed rate to the sulfuric acid plant shall exceed neither 1000 tons per day (TPD), nor 365,000 tons per year (TPY).

10. The permittee shall employ proper operation and maintenance procedures to minimize emissions from the molten sulfur system pursuant to the applicable requirements of F.A.C. Rule 17-296.411 [Molten Sulfur Storage and Handling Facilities]. The permittee shall also comply with other applicable provisions of F.A.C. Chapters 17-210, 212, 275, 296, 297; and 17-4.

11. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-296.200(123) [Objectionable Odor Prohibited].

12. Initial compliance tests for the molten sulfur system shall be conducted in accordance with the July 1, 1993, version of 40 CFR 60, Appendix A, using EPA Method 9, for visible emissions. Test run duration shall not be less than 30 minutes. The tests for the

- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

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

BACT Determined by DEP:

Control Technology Double Absorption/Fiber Mist Eliminators

Pollutant Emission Limits

SO ₂	4.0 lb/ton of 100% H ₂ SO ₄ produced
Sulfuric Acid Mist	0.15 lb/ton of 100% H ₂ SO ₄ produced
Visible Emissions	10% opacity

BACT Determination Rationale

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