

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

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

Bureau of  
Air Regulation

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<sub>x</sub> 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<sub>x</sub> emissions increase based on 1991-1994 emission data available from source sampling (average for the period) is as follows:

Actual Emissions

SAP 1: NO<sub>x</sub> = 985,500 tpy acid x 0.079 lb NO<sub>x</sub>/ton acid x ton/2000lbs  
= 38.9 tpy

SAP 2: NO<sub>x</sub> = 985,500 tpy acid x 0.083 lb NO<sub>x</sub>/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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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  $\text{NO}_x$  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  $\text{NO}_x$  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 its 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.



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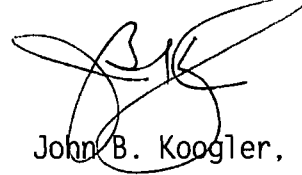
Furthermore, FDEP's air toxics guidance indicates that a FARC can be exceeded so long as the pollutant emissions are controlled using BACT. In the case of the DAP Plant, the pollution controls presently in place constitute BACT pursuant to FDEP's BACT determination for PSD-FL-204.

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,

KOOGLER & ASSOCIATES



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

JBK:par

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

