



United States Department of the Interior  
FISH AND WILDLIFE SERVICE



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Denver, Colorado 80225

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Lakewood, Colorado 80228

IN REPLY REFER TO:

RW Air Quality  
Mail Stop 60130

JULY 03 1991

RECEIVED

JUL 12 1991

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

Division of Air  
Resources Management

Dear Mr. Fancy:

We have completed our review of the IMC Fertilizer permit application and your Technical Evaluation and Preliminary Determination Document (TEPDD) regarding IMC's proposal to increase the production rates of sulfuric acid plants Nos. 1 through 5 at their facility near Mulberry, Florida. The mulberry facility is located approximately 104 km southeast of the Chassahowitzka Wilderness Area, a class I air quality area administered by the U.S. Fish and Wildlife Service.

The Chassahowitzka National Wildlife Refuge was established in 1943 for the purpose of migratory bird conservation. The refuge provides habitat for a number of federally threatened and endangered species including the American alligator, bald eagle, eastern brown pelican, eastern indigo snake, Florida manatee, and three species of sea turtle. Our comments on the best available control technology (BACT), air quality, and air quality related values analyses with respect to the proposed project's potential impacts on the Chassahowitzka Wilderness Area are discussed below.

The primary emission increases associated with the proposed IMC Fertilizer project are: 3055 tons per year (TPY) of sulfur dioxide (SO<sub>2</sub>), 304 TPY of sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>), and 43 TPY of nitrogen oxides. We agree with, and wish to reiterate, the comments made by the Environmental Protection Agency (EPA), Region IV, in their letter to you dated March 19, 1991, regarding BACT. We agree that IMC Fertilizer's proposal to use double absorption to control SO<sub>2</sub> emissions and fiber mist eliminators to control H<sub>2</sub>SO<sub>4</sub> emissions represents BACT. IMC Fertilizer proposes to meet the New Source Performance Standards (NSPS) for these pollutants for each of the units; however, the actual emissions data submitted by the applicant indicate that lower limits are achievable. The average SO<sub>2</sub> emission rate from these units ranges between 3.20 and 3.63 pounds per ton (lb/ton) as compared to the NSPS limit of 4.0 lb/ton. The difference is even greater for H<sub>2</sub>SO<sub>4</sub>; the average emission rate ranges between 0.013 and 0.080 lb/ton as compared to the NSPS limit of 0.15 lb/ton. We agree with EPA that it would seem reasonable to establish allowable permit conditions that reflect the actual capabilities of the units.

In the air quality analysis, neither IMC Fertilizer nor the State modeled the impact of the proposed project on the Chassahowitzka Wilderness Area because the facility is located more than 100 km away. As we have indicated in other permit reviews and in our recent letter to you clarifying Federal Land Manager (FLM) notification procedures, guidance provided by the EPA recognizes the possible impacts of sources located more than 100 km from a class I area. Therefore, it follows that the analysis of increment consumption should not be limited to 100 km, but should include all increment-consuming sources that could impact the class I airshed, regardless of their distance from the area.

We performed an air quality dispersion modeling analysis to calculate the SO<sub>2</sub> class I increment impact at the Chassahowitzka Wilderness Area that would result from the IMC Fertilizer emissions increase. We contacted members of your staff regarding the class I increment analysis that they performed for the Chassahowitzka Wilderness Area in the recent CF Industries PSD permit review. The CF Industries analysis used the EPA-approved Industrial Source Complex Short-Term (ISCST) model with 5 years (1982-1986) of National Weather Service data from Tampa, Florida, and 9 discrete receptors at Chassahowitzka. We assumed that the State's CF Industries class I analysis included only those sources within 100 km of the wilderness area. This would have excluded the IMC Fertilizer facility from that increment analysis. Your staff provided us with the 1986 "50 Maximum 24-Hour Average Concentration" (MAX 50) table that was compiled from the CF Industries analysis.

We used the same ISCST model, 1986 meteorological data, and 9 discrete receptor locations that were used by the State in the CF Industries analysis. The stack parameters we used were those that IMC Fertilizer provided in their application. Because plant Nos. 1 through 3 were constructed in 1972, before the January 6, 1975, SO<sub>2</sub> major source baseline date, only the proposed SO<sub>2</sub> emission increases from these plants will consume increment. However, plant Nos. 4 and 5 were constructed in 1980, after the baseline date, so all SO<sub>2</sub> emissions from these two plants consume PSD increment. Therefore, our modeling analysis included the new SO<sub>2</sub> emissions from the proposed expansion of plant Nos. 1 through 5, plus the existing actual emissions from plant Nos. 4 and 5 that we obtained from the IMC Fertilizer application.

The results of our analysis indicate that it is highly likely that the 24-hour SO<sub>2</sub> class I increment at Chassahowitzka may be totally consumed. In the MAX 50 table provided by the State, only 40 days were represented because there were several days on which multiple receptors showed high numbers. We modeled the 40 days identified in the MAX 50 table, and found that on 3 of these days, the 24-hour SO<sub>2</sub> class I increment was exceeded when the concentrations from the IMC Fertilizer facility were included. However, the three exceedances occurred at different receptors. The results of our analysis are shown in Table 1 (enclosed).

In a second analysis, we modeled all 365 days in 1986 at the 9 discrete receptors at Chassahowitzka. We found some disturbingly high 24-hour concentrations, including a concentration of 2.99 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) on day 205. Table 2 lists ten of the highest days and concentrations found in this analysis.

We do not have a copy of the complete CF Industries analysis which includes 24-hour concentrations at all 9 receptors for each day of the year. A comparison of the complete CF Industries analysis for 1986 may show increment exceedances when the concentrations are combined, in time and space, with the IMC Fertilizer increment impacts. In addition, the 1982-1985 CF Industries impacts have not been compared, in time and space, to the 1982-1985 IMC Fertilizer impacts. Considering the magnitude of some of the 1986 combined increment impacts, we are not convinced that an increment violation consisting of two exceedances at the same receptor during one of these other four years does not occur. Further analysis is needed to resolve this uncertainty.

In addition to the increment issue mentioned above, we are concerned about the cumulative impact the emissions may have on resources, such as lichens and bryophytes, that are known to be particularly sensitive to  $\text{SO}_2$ . We are also concerned about the potential acidification of surface water in the wilderness area due to increased sulfur deposition. Acidification could have serious implications not only for the invertebrates and fish that would be directly affected, but also for species higher up the food chain that depend on them for food, species such as the alligator, pelican, and bald eagle.

Also, in Section (e) of your TEPDD, you conclude that because the impacts from the proposed project are predicted to be less than PSD significance levels, no harmful effects on soils and vegetation are expected. This is not necessarily true. As you know, there are no PSD significant impact levels for class I areas. The reason for this is that if the threshold concentration for effects on sensitive resources is being approached, it is possible that a significant impact could occur at a concentration of less than predetermined significant levels. In addition, once the effects threshold is actually reached, any increase in concentrations may be considered "significant."

In conclusion, based on the results of our modeling analysis, we cannot be certain that the impacts from the proposed IMC Fertilizer project, combined with the large percentage of the 24-hour  $\text{SO}_2$  increment that has already been consumed, will not cause a class I increment exceedance at the Chassahowitzka Wilderness Area. If additional modeling reveals that the IMC Fertilizer facility will not cause an increment exceedance, there is a good possibility that the next project proposed near Chassahowitzka will. For example, we are currently reviewing an application for Florida Power Corporation's proposed expansion of their DeBary facility located 120 km from Chassahowitzka. The expansion would result in a substantial increase in  $\text{SO}_2$  emissions, 3648 TPY. If further modeling reveals that IMC

Fertilizer will cause or contribute to a class I increment exceedance, they will need to ask us to certify that there will be no adverse impacts to class I area resources before the final permit can be issued. Therefore, the IMC Fertilizer permit cannot be issued until the increment issue has been resolved.

We will await the results of the additional increment analysis. In the meantime, if you have any questions regarding this matter, please contact Tonnie Maniero of our Air Quality office in Denver at (303) 969-2071.

Sincerely,



Wilbur N. Ladd, Jr.  
Assistant Regional Director  
Refuges and Wildlife, Region 6

Enclosure

cc: Jellell Harper, Chief  
Air Enforcement Branch  
Air, Pesticides and Toxic Management Division  
U.S. EPA, Region 4  
345 Courtland Street, NE  
Atlanta, Georgia 30365

*J. Reynolds*  
*C. Holladay*  
*B. Andrews*  
*B. Thomas, SW Dist.*

TABLE 1  
Comparison of Modeled IMC Fertilizer Impacts  
to FDER MAX 50 Concentrations

Julian Day	UTM East	UTM North	FDER Impact (ug/m <sup>3</sup> )	IMC Impact at Chassahowitzka (ug/m <sup>3</sup> )	Total Impact at Chassahowitzka (ug/m <sup>3</sup> )
215	340700	3171900	4.24	1.75	5.99
353	342000	3174000	5.14	0.53	5.67
353	340700	3171900	4.66	0.30	4.96
344	342400	3180600	4.81	0.56	5.37
344	343700	3178300	4.19	0.59	4.78
94	340300	3167700	4.65	0.01	4.66
343	340300	3169800	3.44	1.00	4.44
272	340700	3171900	4.27	0.13	4.40
329	343700	3178300	4.31	0.08	4.39
166	340300	3167700	4.35	0.02	4.37

TABLE 2  
Maximum 1986 IMC Fertilizer Impacts at Chassahowitzka Wilderness Area

Julian Day	UTM East	UTM North	IMC Impact at Chassahowitzka (ug/m <sup>3</sup> )
205	340700	3171900	2.99
205	340300	3169800	2.56
176	340300	3165700	2.27
176	340300	3167700	2.00
36	340700	3171900	1.89
151	343700	3178300	1.85
205	340300	3167700	1.84
151	342400	3180600	1.82
205	342000	3174000	1.78
151	343000	3176200	1.76



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

JUN 27 1991

4APT-AEB

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

RE: IMC Fertilizer, Inc. (PSD-FL-170)  
Ae 53-19202.1

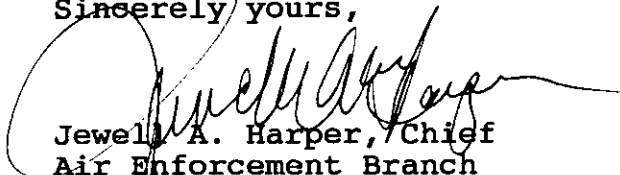
Dear Mr. Fancy:

This is to acknowledge receipt of your preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for the above referenced facility dated May 22, 1991. The proposed modification to the existing facility consists of increasing the production rate on each of five sulfuric acid plants.

We concur with your determination that the use of double absorption units and mist eliminators represent BACT for SO<sub>2</sub> and sulfuric acid mist, respectively.

Thank you for the opportunity to review and comment on this application. If you have any questions or comments, please contact Mr. Gregg Worley of my staff at (404) 347-5014.

Sincerely yours,

  
Jewell A. Harper, Chief  
Air Enforcement Branch  
Air, Pesticides, and Toxics  
Management Division

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JUL 01 1991

Division of Air  
Resources Management

cc:

- CHF
- Barry Andrews
- John Reynolds
- Cleve Holladay
- Chris Shaver, NPS
- Bill Thomas, SW Dist.

} 7-1-91 Ran



June 7, 1991

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

Dear Sir,

Enclosed please find a copy of the Affidavit of Publication for source number AC53-192221, IMC Fertilizer, Inc., increase in permitted rates for sulfuric acid plants.

The original is on file at New Wales for the Departments inspection if necessary.

Sincerely,

*A. L. Girardin*

*for* J. M. Baretincic  
Director, Environmental Services

SULFADD.ALG/alg

Enclosure

CC: J. A. Brafford  
A. L. Girardin  
W. C. Thomas, DER-TPA

*G. Reynolds*  
*B. Andrews*  
*C. Halladay*  
*D. Harper, EPA*  
*E. Shaver, OPS*

RECEIVED

JUN 10 1991

Division of Air  
Resources Management

# AFFIDAVIT OF PUBLICATION

## THE LEDGER Lakeland, Polk County, Florida

Case No. ....

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 of Intent .....

in the matter of .....  
Sulfuric Acid .....

in the .....

Court, was published in said newspaper in the issues of .....

June 3; .....

1991 .....

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 post office 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 P. DeWitt*  
Controller

Sworn to and subscribed before me this ..... 3rd .....

day of ..... June ..... A.D. 19 ..... 1991 .....

(Seal)

*Charles W. Webb*  
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA.

State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to IMC Fertilizer, Inc. State Road 640 and County Line Road, PO Box 1035, Mulberry, Florida 33860, to increase the production rates of sulfuric acid plants Nos. 15 at their facility near Mulberry, Polk County, Florida. A determination of Best Available Control Technology (BACT) was required. The proposed project is subject to Prevention of Significant Deterioration requirements and federal new source performance standards. The project will increase total actual sulfuric acid production at the IMC facility by approximately 15.8% and is not expected to result in significant deterioration of the environment. Modeling results showed that increases in ambient groundlevel concentrations for all averaging times are less than the PSD significant impact levels for SO<sub>2</sub>. The impact of this project on the nearest Class I area, Chassahowitzka National Wilderness Area, was not a consideration since this area is over 100 kilometers from the applicant's facility. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. 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.

The Petition shall contain the following information:

- The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- A statement of how and when each petitioner received notice of the Department's action or proposed action;
- A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- A statement of the material facts disputed by petitioner, if any;
- A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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 Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 285.207, F.A.C.

The application is available for public inspection during 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 Regulation 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Department of Environmental Regulation Southwest District Office 4520 Oak Fair Blvd. Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the Department's final determination. Furthermore, a public hearing can be requested by any person. Such requests must be submitted within 30 days of this notice. C305X -- 63; 1994