



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

July 17, 1991

Mr. J. E. Parsons
General Manager
CF Industries, Inc.
P.O. Drawer L
Plant City, FL 33566

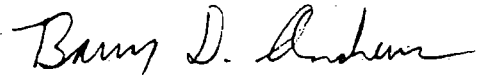
Dear Mr. Parsons:

Enclosed is Permit Number AC 29-186931, PSD-FL-155, to CF Industries, Inc. for the construction/modification of Sulfuric Acid Plants "C" and "D" at the Plant City Phosphate Complex in Hillsborough County, Florida, issued pursuant to Section 403 Florida Statutes.

Any party to this Order (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 Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

Jewell Harper, EPA Region IV
C. Shaver, NPS
Harry Kerns, SW District
Jerry Campbell, EPCHC
John Koogler, P.E.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 7-17-91.

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.

Kim Debes 7-17-91
Clerk Date

P 832 539 811



Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

| | |
|---|---------|
| Sent to | |
| J. E. Parsons | |
| Street & No. | |
| CF Ind. | |
| P.O. State & ZIP Code | |
| Plant City, FL | |
| Postage | \$ |
| Certified Fee | |
| Special Delivery Fee | |
| Restricted Delivery Fee | |
| Return Receipt Showing to Whom & Date Delivered | |
| Return Receipt Showing to Whom, Date, & Address of Delivery | |
| TOTAL Postage & Fees | \$ |
| Postmark or Date | 7-17-91 |
| AC 29-186931 PSD-FI-155 | |

PS Form 3800, June 1990

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. J. E. Parsons, Gen. Mgr.
CF Industries, Inc.
P.O. Drawer L
Plant City, FL 33566

4a. Article Number

P 832 539 811

4b. Service Type

- | | |
|---|---|
| <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 |

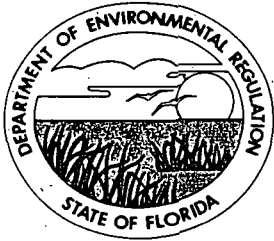
7. Date of Delivery

7-22-91

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)



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:

CF Industries, Inc.
P.O. Drawer L
Plant City, FL 33566

Permit Number: AC 29-186931
PSD-FL-155

Expiration Date: December 31, 1991
County: Hillsborough
Latitude/Longitude: 28°09'59"N
82°08'27"W

Project: Sulfuric Acid Plants
C and D

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 modification of production rates for the C and D sulfuric acid plants by repacking the absorption towers resulting in decreased pressure drop and increased gas flow providing for more sulfur burning and process rate capability. The production rate of each of the two plants will increase from 2400 TPD to 2600 TPD of 100% sulfuric acid.

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

This construction/modification permit will modify operating permits No. A029-167063 and No. A029-167064.

Exhibits on file are listed below:

1. CF Industries' application received September 26, 1990.
2. CF Industries' additional information received October 15, 1990.
3. DER's letter dated October 25, 1990.
4. DER's letter dated November 13, 1990.
5. CF Industries' response received December 10, 1990.
6. Koogler & Associates' response received January 16, 1991.
7. EPCHC comments received February 26, 1991.

APIS Nos.: Plant C - 40HIL29000507
Plant D - 40HIL29000508

PERMITTEE:
CF Industries, Inc.

Permit Number: AC 29-186931
PSD-FL-155
Expiration Date: December 31, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocations and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes

and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
CF Industries, Inc.

Permit Number: AC 29-186931
PSD-FL-155
Expiration Date: December 31, 1991

GENERAL CONDITIONS (cont'd):

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

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

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

PERMITTEE:
CF Industries, Inc.

Permit Number: AC 29-186931
PSD-FL-155
Expiration Date: December 31, 1991

GENERAL CONDITIONS (cont'd):

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and approximate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C. as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

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

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the

PERMITTEE:
CF Industries, Inc.

Permit Number: AC 29-186931
PSD-FL-155
Expiration Date: December 31, 1991

GENERAL CONDITIONS (cont'd):

permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

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

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

SPECIFIC CONDITIONS:

1. The permittee, for good cause, may request that this construction/modification 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).

2. The following limitations as found AC29-132155 and in Specific Conditions 2, 3 and 4 of operating permits AO29-167063 and AO29-167064 are modified as follows for each plant C and D:

Max. production rate shall not exceed 2600 TPD 100% sulfuric acid.

Max. sulfur dioxide emissions shall not exceed -
4 lbs/ton 100% H₂SO₄ produced,
433 lbs/hour and
1898 tons/year.

Max. sulfuric acid mist emissions shall not exceed -
0.15 pound per ton 100% H₂SO₄ produced,
16.25 pounds per hour and
71.2 tons/year

All other specific conditions in these two operating permits remain unchanged.

PERMITTEE:
CF Industries, Inc.

Permit Number: AC 29-186931
PSD-FL-155
Expiration Date: December 31, 1991

SPECIFIC CONDITIONS (cont'd):

3. Best operational start-up practices shall be used at sulfuric acid plants C and D. These practices are specified in the attached copy of the "Memorandum of Understanding Regarding Best Operational Start-up Practices for Sulfuric Acid Plants" jointly agreed upon by the Department and CF Industries on November 1, 1989.

4. The permittee shall take reasonable precautions to prevent public access to plant property. These precautions shall include either (1) fencing along the property boundaries or (2) clearly posting unfenced property boundaries with "No Trespassing" signs and routinely patrolling unfenced boundaries by plant security personnel.

5. Within 30 days after completion of modifications, compliance testing for the sulfuric acid plants must be performed. Testing must be performed while operating at a rate within 90 to 100% of the permitted maximum production rate of 2600 TPD. The EPCHC shall be notified in writing 15 days prior to any compliance tests.

6. An application for an operation permit must be submitted in quadruplicate to the EPCHC office at least 90 days prior to the expiration date of the construction/modification permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fees, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 16 day
of July, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Carol M. Browner
Secretary

Final Determination

CF Industries, Inc.
Plant City, Hillsborough County
Florida

Sulfuric Acid Plants C and D Modifications

Permit No. AC 29-186931
PSD-FL-155

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

June 18, 1991

Final Determination

The Technical Evaluation and Preliminary Determination for the permit to construct/modify Sulfuric Acid Plants "C" and "D" at CF Industries' Plant City Phosphate Complex in Hillsborough County, Florida, was distributed on April 11, 1991. The Notice of Proposed Agency Action was published in the Tampa Tribune on April 20, 1991. Copies of the evaluation were available for public inspection at the Department's offices in Tampa and Tallahassee. The only comments received were from the United States Department of the Interior's Fish and Wildlife Service (FWS). The FWS comments are summarized below. The Department's response to each comment immediately follows.

FWS Comment No. 1:

The reported 24-hour and annual maximum increment concentrations from the proposed CFI modification are questionable because the annual impact is greater than the 24-hour impact.

Response:

The maximum annual concentration for CFI only was incorrectly shown as 0.17 ug/m^3 in the preliminary determination. The corrected value is 0.013 ug/m^3 . The 24-hour value was correctly reported as 0.15 ug/m^3 .

FWS Comment No. 2:

It is important that all increment consuming sources be included in the analysis because the allowable increments are being approached. Therefore, we request that you provide us a list of the sources, along with the appropriate emissions, stack parameters, and source location information that was included in your analysis so that we may perform independent modeling analyses.

Response:

We are providing the FWS the requested information. While preparing a response to this request, we discovered several increment consuming and increment expanding SO_2 sources had inadvertently not been included in the cumulative increment analysis performed prior to the issuance of the preliminary determination. We repeated the cumulative increment analysis with these sources included (using five years of meteorological data). The results of this updated analysis predict that the maximum SO_2 increment consumed by all sources is 0.57 ug/m^3 annual average, instead of 1.44 ug/m^3 as shown in the preliminary determination; 18.6 ug/m^3 , 3-hour average; instead of 12.7 ug/m^3 ; and 4.68 ug/m^3 , 24-hour average instead of 3.6 ug/m^3 . Maximum predicted concentrations remain below the allowable Class I increments. As stated in the response to comment No. 1, CFI's maximum increment concentrations are either the same or are lower than those reported in the preliminary determination.

FWS Comment No. 3:

In order for the FWS to assess potential impacts on sensitive air quality related values (AQRVs) it is important for us to know the total ambient concentrations (increment plus background) at the Class I area. Other plants in the vicinity may not consume PSD increments, but nevertheless, they contribute to background pollution levels.

Response:

We are not requiring CFI to perform a total ambient concentration analysis at the Class I area in order to obtain this permit. CF is located 70 km away from the Class I area and the ambient concentration increases due to the proposed project are less than the PSD significant impact levels near the plant.

MEMORANDUM OF UNDERSTANDING
REGARDING BEST OPERATIONAL START-UP PRACTICES
FOR SULFURIC ACID PLANTS

The parties jointly agree: for the purposes of Rule 17-2.250, the foregoing practices constitute "best operational practices" for the start-up of sulfuric acid plants.

The Department will not seek to incorporate these practices into permits for existing facilities during the first 18 months after implementation. After the expiration of this 18-month period, which is a typical catalyst cycle, the Department may seek to modify the permits, in accordance with Rule 17-4.080 and other applicable laws, to incorporate appropriate site-specific start-up procedures as enforceable permit conditions.

These Sulfuric Acid Plant Best Operation Start-Up Practices will be made available in the control room at all times.

Since these specific procedures are undergoing evaluation, the Department will not consider these practices to be the only means of demonstrating best operating procedures. If a company chooses to use another method, it will be its responsibility to demonstrate that it constitutes best operational practices in accordance with 17-2.250, F.A.C.

BEST OPERATIONAL START-UP PRACTICES
FOR SULFURIC ACID PLANTS

1. Only one sulfuric acid plant at a facility should be started up and burning sulfur at a time. There are times when it will be acceptable for more than one sulfuric acid plant to be in the start-up mode at the same time, provided the following condition is met. It is not acceptable to initiate sulfur burning at one sulfuric acid plant when another plant at the same facility is emitting SO₂ at a rate in excess of the emission limits imposed by the permit or rule, as determined by the CEMS emission rates for the immediately preceding 20 minutes.

2. A plant start-up must be at the lowest practicable operating rate, not to exceed 70 percent of the designated operating rate, until the SO₂ monitor indicates compliance. Because production rate is difficult to measure during start-up, if a more appropriate indicator (such as blower pressure, furnace temperature, gas strength, blower speed, number of sulfur guns operating, etc.) can be documented, tested and validated, the Department will accept this in lieu of directly documenting the operating rate. Implementation requires the development of a suitable list of surrogate parameters to demonstrate and document the reduced operating rate on a plant-by-plant basis. Documentation that the plant is conducting start-up at the reduced rate is the responsibility of the owner or operator.

3. Sulfuric acid plants are authorized to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices, in accordance with this agreement, to minimize emissions are followed. No plant shall be operated (with sulfur as fuel) out of compliance for more than three consecutive hours. Thereafter, the plant shall be shut down. The plant shall be shut down (cease burning sulfur) if, as indicated by the continuous emission monitoring system, the plant is not in compliance within three hours of start-up. Restart may occur as soon as practicable following any needed repairs or adjustments, provided the corrective action is taken and properly documented.

4. Cold Start-Up Procedures.

a. Converter.

(1) The inlet and outlet temperature at the first two masses of catalyst shall be sufficiently high to provide immediate ignition when SO₂ enters the masses. In no event shall the inlet temperature to the first mass be less than 800°F or the outlet temperature to the first two masses be less than 700°F.

These temperatures are the desired temperatures at the time the use of auxiliary fuel is terminated.

(2) The gas stream entering the converter shall contain SO_2 at a level less than normal, and sufficiently low to promote catalytic conversion to SO_3 .

b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H_2SO_4 .

5. Warm Restart.

a. Converter.

The inlet and outlet temperatures of the first two catalyst masses should be sufficiently high to ensure conversion. One of the following three conditions must be met:

(1) The first two catalyst masses inlet and outlet temperatures must be at a minimum of 700°F ; or

(2) Two of the four inlet and outlet temperatures must be greater than or equal to 800°F ; or

(3) The inlet temperature of the first catalyst must be greater than or equal to 600°F and the outlet temperature greater than or equal to 800°F . Also, the inlet and outlet temperatures of the second catalyst must be greater than or equal to 700°F .

Failure to meet one of the above conditions, requires use of cold start-up procedures.

To allow for technological improvements or individual plant conditions, alternative conditions will be considered by the Department in appropriate cases.

b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H_2SO_4 .

Steve Smallwood 10-10-89
Steve Smallwood, P/E. Date
Director, Division of Air
Resources Management
Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

A. Holmes
CP Industries, Inc.

Nov. 1
Date

Best Available Control Technology (BACT) Determination
CF Industries, Inc.
Hillsborough County

The applicant proposes to increase sulfuric acid production from 2400 tons per day to 2600 tons 100% sulfuric acid per day per plant at existing plants "C" and "D" at the Plant City Phosphate Complex in Hillsborough County.

The proposed project will result in a significant increase in emissions of SO₂, acid mist, and NO_x. The project is therefore subject to Prevention of Significant Deterioration (PSD) review in accordance with F.A.C. Rule 17-2.500 (5).

The BACT review is part of the PSD review requirements in accordance with F.A.C. Rule 17-2.500(5)(c).

Date of Receipt of a BACT application:

September 26, 1990

BACT Determination Requested by the Applicant:

The BACT determination requested by the applicant is presented below:

Control Technology: Double Absorption/Fiber Mist Eliminators

| <u>Pollutant</u> | <u>Emission Limits</u> |
|-------------------|---|
| SO ₂ | 4 lb/ton of 100% H ₂ SO ₄ produced |
| Acid Mist | 0.15 lb/ton of 100% H ₂ SO ₄ produced |
| Visible Emissions | 10% opacity |
| NO _x | 0.14 lb/ton of 100% H ₂ SO ₄ produced |

Basis of Review:

This determination was based upon input from the applicant, EPA Region IV, and the Bureau of Air Regulation.

BACT Determination Procedure:

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

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

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

BACT Determined by DER:

Control Technology: Double Absorption/Fiber Mist Eliminators

| <u>Pollutant</u> | <u>Emission Limits</u> |
|-------------------|---|
| SO ₂ | 4 lb/ton of 100% H ₂ SO ₄ produced |
| Acid Mist | 0.15 lb/ton of 100% H ₂ SO ₄ produced |
| Visible Emissions | 10% opacity |
| NOx | 0.14 lb/ton of 100% H ₂ SO ₄ produced |

BACT Determination Rationale

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

BACT
CF Industries, Inc.
Page Three

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

Environmental Impact Analysis:

The impact analysis for the BACT determination is based on 8760 hours/year operation. The ambient air quality impact analysis resulted in the following for SO₂ emissions:

| <u>Averaging Time</u> | <u>Predicted Impact</u> (ug/m ³) | <u>De minimus</u> (ug/m ³) | <u>Fla. AAQS</u> (ug/m ³) |
|---|---|---|--|
| <u>SO₂</u> | | | |
| Annual | 0.15 | N/A | 60 |
| 24-hr | 1.8 | 13.0 | 260 |
| 3-hr | 7.5 | N/A | 1300 |
| <u>NO_x</u> (planned increase plus 1988 increases) | | | |
| Annual | 0.009 | 14.0 | 100 |

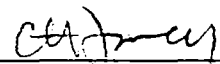
Conclusion:

The incremental impact from SO₂ and NO_x due to the proposed modification is insignificant. Although the ambient air quality impact analysis ordinarily should not be considered part of the BACT evaluation, the minimal impacts associated with the proposed increase in production strengthen the Department's determination that the emission limits established herein represent BACT.

Details of the Analysis may be Obtained by Contacting:

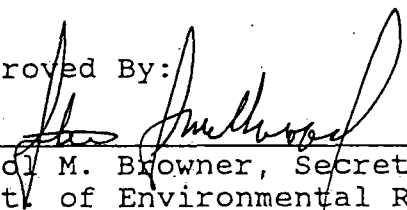
Barry Andrews, P.E.
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended By:


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

June 18, 1991
Date

Approved By:


Carol M. Browner, Secretary
Dept. of Environmental Regulation

July 16, 1991
Date



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Carol M. Browner

FROM: Steve Smallwood 

DATE: July 10, 1991

SUBJECT: Approval of Construction/Modification Permit AC 29-186931,
PSD-FL-155

CF Industries, Inc. - Sulfuric Acid Plants "C" and "D"

Attached for your approval and signature is a permit and corresponding Best Available Control Technology (BACT) determination prepared by the Bureau of Air Regulation for the above mentioned company to increase production at sulfuric acid plants "C" and "D" in Hillsborough County.

Comments were received during the public comment period and are addressed in the final determination. The project is not controversial.

I recommend your approval.

SSm/CP

Attachments