TO:

Joseph Kahn

THRU:

Trina Vielhauer

Jeff Koerner

FROM:

Syed Arif Syel And

DATE:

February 21, 2008

SUBJECT:

CF Industries, Inc. - Plant City Phosphate Complex

Air Permit No. PSD-FL-339B Project No. 0570005-026-AC Sulfuric Acid Production Increase

Attached for your approval and signature is the Final Permit for CF Industries, Inc., Plant City Phosphate Complex located in Plant City, Hillsborough County. The project recognizes the actual installed capacity of the 'C' and 'D' sulfuric acid plants without increasing emissions authorized by the original PSD Permit (PSD-FL-339). The SO₂ BACT limits were reduced from 3.5 to 3.25 lb/ton of 100% sulfuric acid which is the lowest determination for a sulfuric acid plant in Florida to date.

We recommend your approval and signature.

JK/sa

Attachments

PERMITTEE

CF Industries, Inc. 10608 Paul Buchman Highway Plant City, FL 33565

PERMITTING AUTHORITY

Florida Department of Environmental Protection Division of Air Resource Management Bureau of Air Regulation, Air Permitting North Section 2600 Blair Stone Road, MS #5505 Tallahassee, Florida 32399-2400

PROJECT

Air Permit No. PSD-FL-339B Permit No. 0570005-026-AC Plant City Phosphate Complex

In June of 2004, CF Industries received Permit No. PSD-FL-339 to increase the production rate of each of the existing "C" and "D" sulfuric acid plants (SAP) from 2,600 to 2,750 tons per day (TPD) of 100% sulfuric acid. The project was subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality in accordance with Rule 62-212.400, Florida Administrative Code (F.A.C.). It established Best Available Control Technology (BACT) standards for sulfur dioxide (SO₂), sulfuric acid mist (SAM) and nitrogen oxides (NO_X). Both plants utilize double-absorption technology and high-efficiency mist eliminators to control SO₂ and SAM emissions.

Several construction activities remain for the original project. However, based on operating experience to date, the applicant believes that installed actual capacity is much higher than anticipated. The applicant proposes to modify the original permit to increase the maximum permitted production rate of each of the existing "C" and "D" sulfuric acid plants from 2,750 to 2,962 tons per day of 100% sulfuric acid. The applicant proposes to achieve the same SO₂ mass emissions rate (lb/hour) for the higher production rate. This means that the sulfuric acid plant is more efficient than originally planned and the SO₂ BACT standards will be reduced from 3.5 to 3.25 lb/ton of 100% sulfuric acid. Because the production rate increases require proportionate increases in the sulfur feed rate, there will be a small increase in particulate matter emissions from the molten storage and handling system of approximately 200 pounds per year. Therefore, although considered a modification of the original PSD permit, the project will not result in significant net emissions increases.

NOTICE AND PUBLICATION

The Department distributed an Intent to Issue Air Permit package on December 20, 2007. The applicant published the Public Notice of Intent to Issue Air Permit in the Tampa Tribune on January 3, 2008. The Department received the proof of publication on January 10, 2008.

COMMENTS

No comments on the Draft Permit were received from the public, the applicant, the Hillsborough County Environmental Protection Commission, the Department's Southwest District, or the National Park Service.

Comments were submitted by the EPA Region 4 by e-mail on February 7, 2008. The comments by EPA Region 4 were submitted after the 30-day comment period ended. The following summarizes their comments and the Department's response:

The preliminary determination needs to address the technical feasibility and/or cost prohibitiveness of achieving the lower limits for SO_2 emissions between 1.5 and 2.5 lb/ton of 100-percent H_2SO_4 . The applicant has proposed SO_2 emission limit of 3.25 lb/ton of 100-percent H_2SO_4 .

In June of 2004, the Department issued Permit No. PSD-FL-339 to increase the production rate of each of the existing 'C' and 'D' sulfuric acid plants from 2,600 to 2,750 TPD of 100% sulfuric acid. The project included a SO₂ BACT determination of 3.5 lb/ton of 100% sulfuric acid for each plant based on a 3-hour rolling average. The facility began a program of construction to implement the changes and realize the production increase. Several of these construction activities still remain; however, the applicant believes the sulfuric acid plants are more efficient than originally planned in 2004 and the current production capacity as modified is 2,962 TPD of 100% sulfuric acid. Therefore, the applicant proposes to reduce the SO₂ BACT from 3.5 to 3.25 lb/ton of 100% sulfuric acid, which will maintain the originally permitted mass emission rates of 401 lb/hour for SO₂. Since the project did not go through a PSD review as the emissions increases were less than significant emission rates for PSD review, the requirement for addressing different technologies and calculating cost effectiveness for the application of each technology does not arise.

The submittal of quarterly production and emissions data was a requirement of Permit No. PSD-FL-339. Based on the quarterly data submitted by the applicant, both the 'C' and 'D' sulfuric acid plants have been able to achieve the permitted production capacity of 2,750 TPD with SO₂ emissions being less than 3.25 lb/ton of 100% sulfuric acid. Once normal operations are established, the applicant has provided reasonable assurance that the sulfuric acid plants will be able to achieve the modified permitted capacity of 2,962 TPD with SO₂ emissions still below 3.25 lb/ton of 100% sulfuric acid.

ADDITIONAL DEPARTMENT REQUIREMENT

The Department based on the applicant's approval will add another condition in the permit under Recordkeeping and Reporting Requirements. The condition will require the applicant to submit semi-annual SO₂ emissions data for the new production rate of 2,962 TPD. The condition will read as follows:

"Semi-annual Reports: The permittee shall submit to the Bureau of Air Regulation SO₂ emissions data for both "C" and "D" sulfuric acid plants on a semi-annual basis. The data submitted shall be SO₂ CEMS 3-hour rolling average data. The CEMS data shall be submitted in a graphical representation against time. The production rate for each plant shall also be indicated on the same graph. The CEMS data shall be submitted for a period of two years after start-up of each plant at the new modified rate of 2,962 TPD." [Rule 62-4.070(3), F.A.C.]

CONCLUSION

The final action of the Department is to issue the Final Permit with the change noted above.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF FINAL PERMIT

In the Matter of an Application for Air Permit

Mr. Herschel E. Morris, Vice President/General Manager CF Industries, Inc. – Plant City Phosphate Complex Post Office Drawer L Plant City, Florida 33564 Air Permit No. PSD-FL-339B Project No. 0570005-026-AC

Enclosed is the Final Permit which authorizes production rate increases for the C and D Sulfuric Acid Plants at Plant City Phosphate Complex in Plant City, Hillsborough County. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.) and Chapters 62-4 through 297 Florida Administrative Code (F.A.C) and Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., 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 Legal Office; 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 order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final Permit) and all copies were sent electronically (with received receipt) before the close of business on to the persons listed:

Herschel E. Morris, CF Industries, Inc. (hmorris@cfifl.com)

Ron Brunk, CF Industries, Inc. (rbrunk@cfifl.com)

Jim Little, EPA (little.james@epa.gov)

Kathleen Forney, EPA (forney_kathleen@epa.gov)

Heidi Lesane, EPA (lesane.heidi@epamail.epa.gov)

Dee Morse, NPS (dee morse@nps.gov)

Cindy Zhang-Torres, DEP-SWD (cindy.zhang-torres@dep.state.fl.us)

Diana Lee, HCEPC (lee@epchc.org)

David Buff, Golder Associates, Inc. (dbuff@golder.com)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby

acknowledged.

(Date)



Florida Department of Environmental Protection

Bob Martinez Center 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

PERMITTEE

CF Industries, Inc. P.O. Box Drawer L Plant City, Florida 33564

Authorized Representative:

Herschel E. Morris V.P. Phosphate Operations & General Manager Project No. 0570005-026-AC Permit No. PSD-FL-339B

SIC No. 2874

Sulfuric Acid Increase

Expires: December 31, 2008

PROJECT AND LOCATION

CF Industries, Inc. operates the existing Plant City Phosphate Complex, which is located in Hillsborough County at 10608 Paul Buchman Highway in Plant City, Florida 33565. The UTM coordinates are Zone 17; 388 km E; 3116 km N. This permit authorizes modification of the Plant City Phosphate Complex to increase the production rate of the existing "C" and "D" sulfuric acid plants from 2,750 to 2,962 tons per day of 100% of sulfuric and to increase the permitted process rate of the molten sulfur storage and handling system.

STATEMENT OF BASIS

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHED APPENDICES ARE MADE A PART OF THIS PERMIT

Appendix A. Best Operational Start-up Procedures for Sulfuric Acid Plants

Appendix B. Summary of BACT Determinations

Appendix GC. General Conditions

Executed in Tallahassee, Florida

Joseph Kahn, Director

Division of Air Resource Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

The Plant City Phosphate Complex is an agricultural chemicals manufacturing facility. Phosphate rock is reacted with sulfuric acid to make phosphoric acid. The phosphoric acid is further processed into monoammonium phosphate (MAP) and diammonium phosphate (DAP).

PROJECT DESCRIPTION

CF Industries, Inc. proposes to increase the permitted production rate of each existing "C" and "D" sulfuric acid plant from 2,750 to 2,962 tons per day of 100% sulfuric acid with a corresponding increase in the permitted throughput of molten sulfur processing. These plants are currently undergoing construction activities authorized by original Permit No. PSD-FL-339, which authorizes a production increase from 2,600 to 2,750 tons per day of 100% sulfuric acid. However, based on operating experience to date, these activities will actually allow the plants to achieve up to 2,962 tons per day of 100% sulfuric acid without any increase in allowable emissions. Both plants use double-absorption technology and high-efficiency mist eliminators to control sulfur dioxide (SO₂) and sulfuric acid mist (SAM) emissions. The project reduces the BACT standards in terms of "lb/ton of 100% sulfuric acid produced" for SO₂, SAM and nitrogen oxides (NO_X) emissions.

REGULATORY CLASSIFICATION

- The existing facility is a major source of hazardous air pollutants (HAP).
- The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The existing facility is a major stationary source of air pollution subject to the Prevention of Significant Deterioration (PSD) of Air Quality in accordance with Rule 62-212.400, F.A.C.

SECTION II. ADMINISTRATIVE REQUIREMENTS

- 1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Department's Southwest District Office, 13051 N. Telecom Parkway, Temple Terrace, Florida 33637-0926. Copies of all such documents shall also be sent to Environmental Protection Commission of Hillsborough County (EPCHC), 3629 Queen Palm Drive, Tampa, Florida 33619-1309. All applications for permits to construct or modify emissions units subject to the PSD review requirements should be submitted to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, MS 5505, Tallahassee, Florida 32399-2400.
- 2. <u>General Conditions</u>: The owner and operator are subject to, and shall operate under, the attached general conditions in Appendix GC of this permit. General conditions are binding and enforceable pursuant to Chapter 403 of the F.S. [Rule 62-4.160, F.A.C.]
- 3. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and F.A.C. Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, 62-297 and Code of Federal Regulations (CFR) Title 40, Parts 60 and 63, adopted by reference in the F.A.C. regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
- 4. Expiration: The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Department prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Southwest District Office of any delays in completion of the project which would affect the startup day by more than 90 days. [Rule 62-4.090, F.A.C]
- 5. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213.420, F.A.C.]
- 6. Source Obligation: Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit. [Rule 62-212.400(12)(a), F.A.C.]
- 7. <u>BACT Determination</u>: For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [40 CFR 52.21(j)(4)]
- 8. <u>Annual Reports</u>: Pursuant to Rule 62-210.370(3), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports using DEP Form 62-210.900(5) shall be sent to the DEP's Southwest District office and EPCHC by March 1st of each year.

Subsection A. Modified Units

The conditions of this subsection apply to the following modified emission units (EU).

EU No.	Emission Unit Description		
007	"C" Sulfuric Acid Plant		
008	"D" Sulfuric Acid Plant		
022, 023, 024 and 033	Molten Sulfur Storage and Handling System		

PREVIOUS APPLICABLE REQUIREMENTS

1. <u>Previous Permits</u>: This permit supplements all previously issued air construction and operation permits for these emission units. Except for changes specified in the conditions below, the emission units remain subject to the conditions of all other valid air construction and operation permits. [Rule 62-4.070(3), F.A.C.]

AUTHORIZED WORK

2. Construction Activities: Pursuant to original Permit No. PSD-FL-339, the permittee has installed approximately 165,000 liters of cesium-promoted vanadium catalyst in the 4th converter pass of each "C" and "D" sulfuric acid plant. The permittee is authorized to make the following modifications to the "C" and "D" sulfuric acid plants: install low pressure drop packing in final, drying and interpass absorption towers; install new boiler feedwater pumps and motors; modify the existing de-aerator feed tank pumps; modify the acid cooling system; upgrade the main blower turbine (increase horsepower); install a new cooling tower cell; and increase sulfur throughput. [Design and Application No. 0570005-026-AC]

PERMITTED CAPACITIES

- 3. <u>Sulfuric Acid Production</u>: Sulfuric acid production in each "C" and "D" plant shall not exceed 2,962 tons per day of 100% H₂SO₄ produced. [Rules 62-210.200(PTE) and 62-212.400(12), F.A.C.]
- 4. <u>Molten Sulfur Process Rate</u>: The maximum molten sulfur process rate for the molten sulfur storage and handling system shall not exceed 8,824 tons per day and 1,051,677 tons during any consecutive 12 months. [Rules 62-210.200(PTE) and 62-212.400(12), F.A.C.]
- 5. <u>Hours of Operation</u>: The emission units may operate continuously (8,760 hours per year). [Rule 62-210.200(PTE), F.A.C.]

EMISSION AND PERFORMANCE REQUIREMENTS

- 6. <u>SO₂ Standards</u>: As determined by data collected from the required continuous emissions monitoring systems (CEMS), sulfur dioxide emissions from each "C" and "D" sulfuric acid plant shall not exceed:
 - a. 3.25 lb/ton of 100% of H₂SO₄ and 401.1 lb/hour based on a 3-hour rolling average, and
 - b. 1,756.8 tons based on a 12-month rolling total.

[Rule 62-212.400(BACT), F.A.C.]

- 7. <u>SAM Standards</u>: As determined by EPA Method 8, sulfuric acid mist emissions from each "C" and "D" sulfuric acid plant shall not exceed 0.093 lb/ton of 100% of H₂SO₄ and 11.4 lb/hour based on annual compliance tests. [Rule 62-212.400(BACT), F.A.C.]
- 8. NOx Standards: As determined by EPA Method 7E, nitrogen oxides emissions from each "C" and "D" sulfuric acid plant shall not exceed 0.11 lb/ton 100% of H₂SO₄ and 13.6 lb/hour. [Rule 62-212.400(BACT), F.A.C.]

Subsection A. Modified Units

9. Opacity Standard: As determined by EPA Method 9, visible emissions from each sulfuric acid plant shall not exceed 10% opacity. [Rule 62-212.400, F.A.C.]

10. Excess Emissions:

- a. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
- b. Unless otherwise specified, excess emissions resulting from startup, shutdown or malfunction shall be permitted providing, (1) best operational practices to minimize emissions are adhered to, and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
- c. The sulfuric acid plants are authorized excess emissions resulting from startup for a period of three consecutive hours provided the operator follows the "Best Operational Startup Practices for Sulfuric Acid Plants" in Appendix A of this permit.
- d. In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700, F.A.C.]

[Rules 62-212.400 and 62-210.700, F.A.C.]

- 11. <u>Fugitive Emissions</u>: Best operational practices to minimize leaks of sulfur dioxide, sulfur trioxide or other fugitive gaseous process emissions shall be adhered to and shall include regular inspections and prompt repair or correction of any leaks or other fugitive emissions. As necessary, the permittee shall take necessary steps (watering, street sweeping, etc.) to prevent and minimize fugitive dust emissions from paved areas and roads at the plant. [Rules 62-212.400 and 62-296.320, F.A.C.]
- 12. Objectionable Odor: No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. "Objectionable odor" is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-210.200 and 62-296.320, F.A.C.]
- 13. <u>Circumvention</u>: No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]

MONITORING AND TESTING REQUIREMENTS

14. <u>CEMS</u>: Continuous emissions monitoring systems (CEMS) shall be calibrated, maintained and operated on the "C" and "D" sulfuric acid plants to demonstrate compliance with the SO₂ emissions standards of this permit. The CEMS shall comply with Performance Specification 2 in Appendix B of 40 CFR 60, the quality assurance procedures in Appendix F of 40 CFR 60 and other Department-approved QA/QC plans.

The CEMS shall calculate and record SO₂ emission rates in units of "lb/ton of 100% sulfuric acid produced". Emissions shall be calculated using one of the methods specified in 40 CFR 60.84. A one-hour average shall be determined for each hour in which sulfur is burned and consist of at least two emissions measurements recorded at least 15 minutes apart. Three-hour rolling averages shall be calculated as the arithmetic mean of three monitored operating hours in which sulfur is burned. The 3-hour rolling averages shall be calculated and recorded for each operating day. Data taken during periods of startup or when the CEMS is out of control as defined in Section 5.2, Appendix F, 40 CFR 60, shall be excluded from the 3-hour rolling averages. Data recorded during periods of shutdown, malfunction, load change, and continuous

Subsection A. Modified Units

operating periods shall be included in the calculation of the 3-hour rolling averages. When demonstrating compliance with the 12-month rolling total, all valid CEMS emissions data shall be used.

To the extent the monitoring system is available to record emissions data, the CEMS shall record data at all operating hours when sulfur is burned in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction. Monitor downtimes and excess emissions based on 3-hour averages, which include startup emissions, shall be reported on a quarterly basis using the summary report in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the summary report when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% greater of the total monitored operating hours.

The monitoring device shall meet the applicable requirements of: Rule 62-297.520, F.A.C.; 40 CFR 60.7(a)(5); 40 CFR 60.13; and Appendix B and Appendix F in 40 CFR 60. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirement, and the proposed location of each stack probe shall be provided to the Department for review at least 30 days prior to installation of a new CEMS.

[Rules 62-4.070(3), F.A.C. and 62-204.800, F.A.C.]

- 15. <u>Stack Testing Facilities</u>: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
- 16. Compliance Tests: Within 60 days after achieving permitted capacity, but not later than 180 days after completing the proposed work, the permittee shall conduct stack tests on the "C" and "D" sulfuric acid plants to determine compliance with the emission limits for NO_X, SAM and opacity. Compliance with the SO₂ standards shall be demonstrated by data collected from the required CEMS. Tests shall be conducted in accordance with the procedures specified in EPA Methods 1, 2, 3, 4, 6C, 7E, 8 and 9, as appropriate. These methods are published in Appendix A of 40 CFR 60. [Rules 62-212.400, 62-4.070(3), 62-204.800 and 62-297.310(7), F.A.C.]
- 17. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 90% to 100% of the maximum sulfuric acid production rate allowed by permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110% of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]
- 18. <u>Test Notification</u>: The permittee shall notify the Department's Southwest District office and EPCHC at least 15 days prior to the compliance tests. Notifications can be made by letter, facsimile or e-mail. Written reports of the test results shall be submitted to those offices within 45 days of test completion. [Rule 62-297.310, F.A.C.]

RECORDKEEPING AND REPORTING REQUIREMENTS

- 19. <u>Records Retention</u>: All measurements, records, and other data required to be maintained by this facility shall be retained for at least five years following the date on which such measurements, records, or data are recorded. These data shall be made available to the Department upon request. [Rule 62-4.070(3), F.A.C.]
- 20. Quarterly Reports: In accordance with 40 CFR 60.7(a)(7)(c), quarterly excess emissions reports shall be submitted to the Department's Southwest District office and EPCHC. [40 CFR 60.7(a)(7)(c)]

Subsection A. Modified Units

21. Semi-annual Reports: The permittee shall submit to the Bureau of Air Regulation SO₂ emissions data for both "C" and "D" sulfuric acid plants on a semi-annual basis. The data submitted shall be SO₂ CEMS 3-hour rolling average data. The CEMS data shall be submitted in a graphical representation against time. The production rate for each plant shall also be indicated on the same graph. The CEMS data shall be submitted for a period of two years after start-up of each plant at the new modified rate of 2,962 TPD. [Rule 62-4.070(3), F.A.C.]

OTHER REQUIREMENTS

- 22. NSPS Provisions: The "C" and "D" sulfuric acid plants (EU 007 and EU 008) are subject to the applicable New Source Performance Standards (NSPS) in Subpart A (General Provisions) and Subpart H (Sulfuric Acid Plants) of 40 CFR 60. [NSPS Subparts A and H of 40 CFR 60; and Rule 62-204.800, F.A.C.]
- 23. Molten Sulfur Storage and Handling System: These emissions units remain subject to the applicable requirements of Rule 62-296.411, F.A.C. and the specific condition of the current Title V air operation permit. [Rule 62-296.411, F.A.C.]

SECTION IV. APPENDICES

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Appendix A. Best Operational Start-up Procedures for Sulfuric Acid Plants

Appendix B. Summary of BACT Determinations

Appendix GC. General Conditions

Best Operational Startup 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 startup 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 startup 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 startup, 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 of the 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 startup at the reduced rate is the responsibility of the owner or operator.
- 3. Sulfuric acid plants are authorized to emit excess emissions from startup 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 (cease burning sulfur) if, as indicated by the continuous emission monitoring system, the plant is not in compliance within three hours of startup. Restart may occur as soon as practicable following any needed repairs or adjustments, provided the corrective action is taken and properly documented.
- 4. Cold Startup 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 SO₂ at a level less than normal and sufficiently low to promote catalytic conversion to SO₃.
 - 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 H₂SO₄.
- 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 startup procedures.

SECTION IV. APPENDIX A.

Best Operational Startup Practices for Sulfuric Acid Plants

To allow for technologies 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 H₂SO₄.

Summary of BACT Determinations

Permit No. PSD-FL-339

For original Permit No. PSD-FL-339, the Department made the following BACT determinations for the "C" and "D" sulfuric acid plants.

- SO₂ Emissions: BACT is the current double-absorption system with the addition of 165,000 liters of Haldor Topsoe cesium catalyst in the 4th pass of the "C" SAP converter and equivalent cesium catalyst that guarantees equal or better performance than Topsoe's product for the "D" SAP. The SO₂ BACT limit for "C" and "D" SAP is 3.5 lb of SO₂ per ton of 100% H₂SO₄, 3-hour rolling CEMS average. This determination is applicable only to the present project and does not represent a BACT determination for a greenfield site or a new unit at a brownfield site. Such a new project would have to consider all process options and a thorough cost-effectiveness evaluation on the basis of cost per ton of SO₂ removed.
- SAM Emissions: BACT is the use of high-efficiency mist eliminators. The SAM BACT emission limit for the "C" and "D" SAP is 0.10 lb of SAM per ton of 100% H₂SO₄.
- NOx Emissions: BACT is the continued use of good combustion practices. The NOx BACT emission limit is 0.12 lbs of NOx per ton of 100% H₂SO₄.

Permit No. PSD-FL-339B

After installing catalyst and completing a portion of the construction authorized in Permit No. PSD-FL-339, the permittee realized that the changes resulted in the capability to produce more sulfuric acid than anticipated. Permit No. PSD-FL-339B authorized a sulfuric acid production increase from 2750 to 2962 tons per day. Based on the installed capabilities of the control systems, the original BACT determinations were revised in this project for the production increase as summarized in the following table.

Pollutant		BACT Standards	Control Technology
SO ₂	401 lb/hour	3.25 lb/ton of 100% H ₂ SO ₄ , 3-hour rolling CEMS average	double absorption process with cesium-promoted vanadium catalyst in the entire 4 th bed.
SAM	11 lb/hour	0.093 lb/ton of 100% H ₂ SO ₄	fiber mist eliminators
NO _x	14 lb/hour	0.11 lb/ton of 100% H ₂ SO ₄	good combustion practices

Compliance Methods

Compliance with the SO₂ emission limit (3.25 lb/ton, 3-hour rolling CEMS average) shall be demonstrated with a certified continuous emission monitor. Startup excess emissions shall be permitted for three hours for the sulfuric acid plants as endorsed in an agreement titled "Best Operational Startup Practices for Sulfuric Acid Plants", which is attached as Appendix A of the permit. In accordance with the following methods, annual testing is required to demonstrate compliance with the emissions limits for the sulfur dioxide, sulfuric acid mist and nitrogen oxides: EPA Methods 1, 2, 3, 4, 6C, 7E, and 8 contained in Appendix A of 40 CFR 60.

SECTION IV. APPENDIX GC.

General Permit Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

- 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, F.S. 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 revocation and enforcement action by the Department.
- 3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey and 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 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 acknowledgment 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 F.S. and Department rules, unless specifically authorized by an order from the Department.
- 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 and 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.

SECTION IV. APPENDIX GC.

General Permit Conditions

- The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- 9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S.. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- 10. The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
- 11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, 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:
 - a. Determination of Best Available Control Technology;
 - b. Determination of Prevention of Significant Deterioration; and
 - c. 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 permit, copies of all reports required by this permit, and records of all data used to complete the application or 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:
 - 1) The date, exact place, and time of sampling or measurements;
 - 2) The person responsible for performing the sampling or measurements;
 - 3) The dates analyses were performed;
 - 4) The person responsible for performing the analyses:
 - 5) The analytical techniques or methods used; and
 - 6) 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.

Trading Page

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF FINAL PERMIT

In the Matter of an Application for Air Permit

Mr. Herschel E. Morris, Vice President/General Manager CF Industries, Inc. – Plant City Phosphate Complex Post Office Drawer L Plant City, Florida 33564 Air Permit No. PSD-FL-339B Project No.=0570005-026-AC

Enclosed is the Final Permit which authorizes production rate increases for the C and D Sulfuric Acid Plants at Plant City Phosphate Complex in Plant City, Hillsborough County. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.) and Chapters 62-4 through 297 Florida Administrative Code (F.A.C) and Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., 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 Legal Office; 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 order is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

Trina L. Vielhauer, Chief Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final Permit) and all copies were sent electronically (with received receipt) before the close of business on to the persons listed:

Herschel-E-Morris, GF-Industries, Inc-(hmorris@efifl.coin)

Bon Brunk, CF Industries, Inc. (rbrunk@cfifl.com)

Little, EPA (little.james@epa.gov)

Kathleen Forney, EPA (forney kathleen@epa.gov)

Heidi Lesane, EPA (lesane heidi@epamail-epa gov)

Dee Morse, NPS (dee morse@nps.gov)

Cindy Zhang-Torres, DEP-SWD (cindy.zhang-torres@dep.state.fl.us)

Diana Lee, HCEPC (lee@epchc.org)

David Buff, Golder Associates, Inc. (dbuff@golder.com)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby

eknowledged.

(Date)

Harvey, Marv

From: Sent:

Forney.Kathleen@epamail.epa.gov Thursday, February 28, 2008 4:15 PM

To:

Harvey, Mary

Subject:

Re: FW: CF Industries, Inc. - Plant City Phosphate Complex - Air Permit:#PSD-FE-339B

thanks

Katy R. Forney Air Permits Section EPA - Region 4 61 Forsyth St., SW Atlanta, GA 30303

Phone: 404-562-9130 Fax: 404-562-9019

> "Harvey, Mary" <Mary.Harvey@dep .state.fl.us>

> 02/28/2008 02:21 ΡM

Kathleen Forney/R4/USEPA/US@EPA

Subject FW: CF Industries, Inc. - Plant City Phosphate Complex - Air

Permit #PSD-FL-339B

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on this link to the DEP Customer Survey. Thank you in advance for completing the survey.

From: Harvey, Mary

Sent: Thursday, February 28, 2008 2:21 PM
To: 'Herschel E. Morris, CF Industries, Inc.'; 'Ron Brunk, CF Industries, Inc.'; 'Jim Little, EPA'; 'Kathleen Forney, EPA'; 'Heidi Lesane, EPA'; 'Dee Morse, NPS'; Zhang-Torres; 'Diana Lee, HCEPC'; 'David Buff, Golder Associates, Inc.'

Cc: Arif, Syed; Walker, Elizabeth (AIR); Gibson, Victoria

Subject: CF. Industries, Inc. - Plant City Phosphate Complex - Air Permit #PSD-FL-339B

Dear Sir/Madam:

Harvey, Mary

From: Brunk, Ron [rbrunk@cfifl.com]

Sent: Thursday, February 28, 2008 2:30 PM

To: Harvey, Mary

Subject: RE: CF Industries, Inc. - Plant City Phosphate-Complex - Air Permit #PSD-FL-339B.

Received, thank you.

ron brunk

----Original Message-----

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]

Sent: Thursday, February 28, 2008 2:21 PM

To: Morris, Herschel; Brunk, Ron; Jim Little, EPA; Kathleen Forney, EPA; Heidi Lesane, EPA; Dee Morse,

NPS; Zhang-Torres; Diana Lee, HCEPC; David Buff, Golder Associates, Inc.

Cc: Arif, Syed; Walker, Elizabeth (AIR); Gibson, Victoria

Subject: CF Industries, Inc. - Plant City Phosphate Complex - Air Permit #PSD-FL-339B

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: http://www.adobe.com/products/acrobat/readstep.html.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

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The information contained in this communication is confidential

Harvey, Mary

From: Morris, Herschel [hmorris@cfifl.com]

Sent: Friday, February 29, 2008 11:30 AM

To: Harvey, Mary; Brunk, Ron; Jim Little, EPA; Kathleen Forney, EPA; Heidi Lesane, EPA; Dee Morse,

NPS; Zhang-Torres; Diana Lee, HCEPC; David Buff, Golder Associates, Inc.

Cc: Arif, Syed; Walker, Elizabeth (AIR); Gibson, Victoria

Subject: RE: CF Industries, Inc. - Plant City Phosphate Complex - Air Permit-#PSD-FL=339B-

I received your E-mail.

Herschel Morris

----Original Message-----

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]

Sent: Thursday, February 28, 2008 2:21 PM

To: Morris, Herschel; Brunk, Ron; Jim Little, EPA; Kathleen Forney, EPA; Heidi Lesane, EPA; Dee Morse,

NPS; Zhang-Torres; Diana Lee, HCEPC; David Buff, Golder Associates, Inc.

Cc: Arif, Syed; Walker, Elizabeth (AIR); Gibson, Victoria

Subject: CF Industries, Inc. - Plant City Phosphate Complex - Air Permit #PSD-FL-339B

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Harvey, Mary

From: Sent: Lesane.Heidi@epamail.epa.gov

Friday, February 29, 2008 12:07 PM

To:

Harvey, Mary

Subject:

Re: FW: CF Industries, Inc. - Plant City Phosphate Complex - Air: Permit-#PSD-FL-339B

I got it with attachments...Thanks!

Heidi LeSane Environmental Protection Specialist Environmental Protection Agency Region 4 Air Division-Air Planning Branch LeSane.Heidi@epa.gov 404~562-9074