

FINAL DETERMINATION

PERMITTEE

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

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Management
Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-7600

PROJECT

Air Permit No. 0570005-051-AC
Minor Air Construction Permit
Plant City Phosphate Complex

This project is for the replacement of the Bird Filter filtrate seal tanks along with associated equipment, pumps, piping, ducting, etc., as necessary, in the facility's "A" Phosphoric Acid Plant.

NOTICE AND PUBLICATION

The Permitting Authority distributed a draft minor air construction permit package on August 20, 2012. The applicant published the Public Notice in the Tampa Tribune on August 24, 2012. The Permitting Authority received the proof of publication on August 27, 2012.

COMMENTS

No comments on the Draft Permit were received from the public, the Environmental Protection Commission of Hillsborough County, or the applicant.

CONCLUSION

No changes were made to the draft permit. The permitting authority hereby issues the FINAL Permit with no changes.



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

FINAL PERMIT

PERMITTEE

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

Authorized Representative:

Mr. Ronald L. Brunk
Superintendent Environmental Affairs

Air Permit No. 0570005-051-AC

Permit Expires: 7/31/2015

Site Name : Plant City Phosphate Complex
Minor Air Construction Permit

Project Name: Replace Bird Filter Filtrate
Seal Tanks in "A" Phosphoric Acid Plant

This is the final air construction permit for the replacement of the Bird Filter filtrate seal tanks along with associated equipment, pumps, piping, ducting, etc. as necessary in the facility's "A" Phosphoric Acid Plant. The proposed work will be conducted at the CF Industries, Inc., Plant City Phosphate Complex (Standard Industrial Classification No. 2874). The facility is located in Hillsborough County at 660 East County Line Road, Plant City, Florida. The UTM coordinates are Zone 17, 388.0 km East, and 3116.0 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Unit Specific Conditions
- Section 4. Appendices

Due to the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) 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 must be filed within 30 days after this order is filed with the clerk of the Department.

SECTION 1. GENERAL INFORMATION (FINAL)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

This facility is a phosphate fertilizer production facility. The facility includes four sulfuric acid production plants, two phosphoric acid production plants, four ammonium phosphate production plants with associated storage and shipping units, a molten sulfur storage and handling system, a phosphogypsum stack, and four emergency diesel engines. Final products produced at the facility include sulfuric acid, phosphoric acid, ammonium sulfate, diammonium phosphate (DAP), and monoammonium phosphate (MAP). The existing facility consists of the following emissions units.

Facility ID No. 0570005	
ID No.	Emission Unit Description
001	Johnson Scotch Marine Type Boiler
002	"A" Sulfuric Acid Plant
003	"B" Sulfuric Acid Plant
004	"A" Phosphoric Acid Plant
007	"C" Sulfuric Acid Plant
008	"D" Sulfuric Acid Plant
009	"B" Phosphoric Acid Plant
010	"A" DAP/MAP Plant
011	"Z" DAP/MAP Plant
012	"X" DAP/MAP Plant
013	"Y" DAP/MAP Plant
014	"A & B" Storage Buildings
015, 018, 019, 020	"A & B" Storage, Sizing and Shipping
022, 023, 024, 033	Molten Sulfur Storage and Handling
032	Phosphoric Acid Cleanup Unit (PACU)
100	Phosphogypsum Stack
102	Emergency Diesel Engines (Existing stationary RICE)
099	Unregulated Facility Fugitive Emissions

Project Description and Affected Emission Units

This project is for the replacement of the four Bird Filter filtrate seal tanks along with associated equipment, pumps, piping, ducting, etc., as necessary, in the facility's "A" Phosphoric Acid Plant. The existing seal tanks are rectangular and each has a depth of 4.1' and a length of 11.1'. The widths of the four seal tanks are 9', 5', 4' and 4'. The dimensions of the four replacement tanks will be approximately 8' diameter (I.D.) by 10'- 6" high. The four tanks will be connected together by overflows (approximately 18" x 24") and there will be a seal pot for the overflow from the #4 tank. At least one of the tanks will include a vent nozzle (approximately 8" in diameter) in the roof for connection to the plant's packed bed scrubber control device. This is an improvement from the existing filtrate seal tanks which currently vent to the atmosphere. Damper controls in the existing

SECTION 1. GENERAL INFORMATION (FINAL)

scrubber ducting arrangement will allow the new seal tank vent to tie into the scrubbing system without causing any change in gas flow rate to the scrubber. The plant is a source of the pollutant fluorides; however, this project is not expected to result in a significant increase in the total fluorides emissions.

This project will modify the following emissions unit.

Facility ID No. 0570005	
ID No.	Emission Unit Description
004	"A" Phosphoric Acid Plant

NOTE: Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAPs).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PERMIT HISTORY/AFFECTED PERMITS

Reference Permit No. 0570005-048-AV

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

Florida Department of Environmental Protection
Southwest District Office
Air Resource Management Section
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Environmental Protection Commission of Hillsborough County (EPC). The mailing address and phone number of the EPC is:

Environmental Protection Commission of Hillsborough County
Air Management Division
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813-627-2600

3. Appendices: The following Appendices are attached as part of this permit:

- a. Appendix A. Citation Formats and Glossary of Common Terms;
- b. Appendix B. General Conditions;
- c. Appendix C. Common Conditions; and
- d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units 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 Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.

[Rule 62-4.080, F.A.C.]

6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Source Obligation (PSD Major facilities only):

- a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
- b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Actual Emissions Reporting (PSD Major Facilities only): This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

- a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
- b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
 - 1) The name, address and telephone number of the owner or operator of the major stationary source;
 - 2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
 - 3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
 - 4) Any other information that the owner or operator wishes to include in the report.
- c. The information required to be documented and maintained pursuant to subparagraphs

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the Department requires the annual reporting of actual Fluorides (F) emissions for Emissions Unit 004.

[Permit Application dated 7/16/2012; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

9. Annual Operating Report: On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.
[Rule 62-210.370(3), F.A.C.]
10. Application for Title V Air Operation Permit: This permit authorizes modification of the permitted emissions unit and initial operation to determine compliance with Department rules. A Title V air operation permit is required for continued operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation or commencing operation as modified. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for a Title V air operation permit, the applicant shall submit the following:
 - a. the appropriate permit application form (*see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: <http://www.dep.state.fl.us/air/>*); and
 - b. a copy of the initial compliance test reports required by Specific Condition No. A.11, if not previously submitted.

The application shall be submitted to the Permitting Authority with a copy to the Environmental Protection Commission of Hillsborough County (Compliance Authority).

[Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS (FINAL)

A. EU No. 004 - "A" Phosphoric Acid Plant

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	<p><u>"A" Phosphoric Acid Plant</u></p> <p>The "A" Phosphoric Acid Plant produces phosphoric acid by reacting sulfuric acid (H₂SO₄) with phosphate rock and has maximum permitted capacity of 1,699 tons per day of 100% P₂O₅. Fluoride emissions from this plant are controlled by a cyclonic scrubber followed by a packed bed scrubber with "Kimre" packing or equivalent packing. Typical gas flow rate through the scrubbers is approximately 43,000 DSCFM. The scrubber system uses pond water as the scrubbing liquid.</p> <p>This construction project involves the replacement of the four Bird Filter filtrate seal tanks along with pumps, piping, ducting and other associated equipment as necessary. The four tanks will be connected together by overflows with a seal pot for the overflow from the #4 tank. At least one of the four tanks will include a vent nozzle (approximately 8" in diameter) in the roof for connection to the plant's packed bed scrubber. Damper controls in the existing scrubber ducting arrangement will allow the new seal tank vent to tie into the scrubbing system without causing any change in gas flow rate to the scrubber. This project is not expected to result in a significant increase in the total fluoride emissions.</p>

PERFORMANCE RESTRICTIONS

- A.1. Federal Regulatory Requirements: This emissions unit is subject to the applicable requirements contained in 40 CFR 63, Subpart AA - National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing Plants and 40 CFR 63, Subpart A - General Provisions. The requirements of 40 CFR 63, Subpart AA apply to phosphoric acid manufacturing plants and the following emissions points which are components of a wet-process phosphoric acid process line: reactors, filters, evaporators, and hot wells. This emissions unit is also subject to the requirements of 40 CFR 60, Subpart T; however, when in compliance with all of the requirements of 40 CFR 63, Subpart AA, the phosphoric acid plants are exempted from the requirements of 40 CFR 60, Subpart T. [Rules 62-213.440 and 62-204.800, F.A.C.; 40 CFR 63, Subpart A and 40 CFR 63, Subpart AA]

- A.2. Permitted Capacity: The maximum operation rate shall not exceed 1699 TPD of 100% P₂O₅ input (daily average equivalent to 70.8 TPH of 100% P₂O₅ input), and 620,208 tons per consecutive 12 months of 100% P₂O₅ input. [Rules 62-4.160(2) and 62-210.200(Definitions - Potential to Emit (PTE)), F.A.C.; Construction Permit 0570005-021-AC/PSD-FL-355]

- A.3. Restricted Operation:
 - 1) The "A" Phosphoric Acid Plant is allowed to operate continuously, i.e., 8760 hours/year.
 - 2) When the scrubbing system in the "A" PAP is not operating, the hours of transferring phosphoric acid to and from storage tanks and operation of evaporation process in the "A" PAP are limited to 730 hours per year.[Construction Permit 0570005-037-AC; Rules 62-4.070(3) and 62-210.200 (PTE), F.A.C.]

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS (FINAL)

A. EU No. 004 - "A" Phosphoric Acid Plant

EMISSIONS STANDARDS

A.4. Fluoride Emissions Standard: Total fluorides (F) emissions shall not exceed any of the following limits:

Maximum Total Fluorides (F) Emissions
0.012 pound/ton of "equivalent P ₂ O ₅ feed"
0.85 pounds/hour
3.7 tons/year

[Note: "equivalent P₂O₅ feed" means the quantity of phosphorus, expressed as phosphorus pentoxide, fed to the process as rock P₂O₅.]

[Construction Permits 0570005-021-AC/PSD-FL-355 and 0570005-044-AC]

TESTING REQUIREMENTS

A.5. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for fluorides. The initial tests shall be conducted no later than 90 days after initial operation of the unit after the replacement of the Bird Filter filtrate seal tanks.

[Rules 62-4.070(3) and 62-297.310(7)(a)1., F.A.C.]

A.6. Compliance Tests After Initial Testing : During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for fluorides. The initial test may be used to satisfy the annual test requirement.

[Rule 62-297.310, F.A.C.]

A.7. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310, F.A.C.]

A.8. Test Method(s): Required tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
1,2 & 4	Traverse Points, Velocity and Flow Rate, and Moisture Content
13A	Determination of Total Fluoride Emissions from Stationary Sources - SPADNS - Zirconium Lake Method
13B (Without	Determination of Total Fluoride Emissions from Stationary Sources - Specific Ion Electrode Method

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS (FINAL)

A. EU No. 004 - "A" Phosphoric Acid Plant

Method(s)	Description of Method and Comments
Distillation)	

The above method(s) are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.

[Rule 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

NOTIFICATION REQUIREMENTS

A.9. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

{Permitting Note: The notification should also include the relevant emission unit ID No(s), test method(s) to be used, and pollutants to be tested.}

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

A.10. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the EU No. 004, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.

[Rule 62-4.070, F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS AND REPORTS

A.11. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(8), F.A.C.]

{Permitting Note: All other conditions in the current Title V permit (0570005-048-AV) for E.U. No. 004 remains unchanged.}