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. 0570005-054-AC
Permit Expires: 02/29/2016
Site Name: Plant City Phosphate Complex
Minor Air Construction Permit
Project Name: A, X, Y & Z DAP/MAP
Plant Modifications

This is the final air construction permit which authorizes modifications to the A, X, Y, & Z DAP/MAP Plants. Specifically, this permit authorizes the addition of Urea Ammonium Nitrate / Ammonium Nitrate and carbon black into each plant's pre-neutralizer; and modifications to the cyclone vortex finder (air outlet) of each plant's product cooler dust cyclones. The proposed work will be conducted at the Plant City Phosphate Complex (Standard Industrial Classification No. 2874). The facility is located in Hillsborough County at 660 East County Line Road in 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.

Executed in Hillsborough County, Florida

Kelley M. Boatwright 02/06/2013

Kelley M. Boatwright — Effective Date
District Air Program Administrator
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination, the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Ronald L. Brunk, CF Industries, Inc. (rbrunk@cfindustries.com)
Mr. John B. Koogler, Koogler and Associates, Inc. (Jkoogler@kooglerassociates.com)
Mr. Pradeep Raval, Koogler and Associates, Inc. (praval@kooglerassociates.com)
Ms. Diana Lee, EPC of Hillsborough County (Lee@epchc.org)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Rhonda Hughes 2/7/2013

(Clerk) (Date)

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 includes the following modifications to the facility's A, X, Y, & Z DAP/MAP Plants:

(1) Urea Ammonium Nitrate / Ammonium Nitrate (UAN/AN) and carbon black (in liquid form) will be added to each plant's pre-neutralizer in addition to adding it to the granulator. Prior to this modification, UAN/AN was only added to the granulator.

(2) Adjustments will be made to the cyclone vortex finder of each plant's product cooler dust cyclone with the goal of improving dust recovery. Each cyclone's vortex finder (air outlet) diameter will be reduced resulting in an increase in the pressure drop across it.

The project will also include additions and/or changes to pumps, piping, ducts, valves, dampers, controllers, etc. to implement changes specified above.

This project will modify the following emissions unit.

Facility ID No. 570005	
ID No.	Emission Unit Description
010	"A" DAP/MAP Plant
011	"Z" DAP/MAP Plant
012	"X" DAP/MAP Plant
013	"Y" DAP/MAP 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

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 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 Particulate Matter (PM) and Fluoride (F) emissions for E.U. Nos. 010, 011, 012, and 013.

[Permit Application dated November 15, 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 most recent compliance test report required by Specific Condition No. A.13., 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.]

A. EU Nos. 010, 011, 012 & 013

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
010	"A" DAP/MAP Plant
011	"Z" DAP/MAP Plant
012	"X" DAP/MAP Plant
013	"Y" DAP/MAP Plant

PERFORMANCE RESTRICTIONS

A.1. Federal Regulatory Requirements: The emissions units are subject to the applicable requirements contained in 40 CFR 63, Subpart BB - National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizers Production Plants; and 40 CFR 63, Subpart A - General Provisions.
[Rules 62-204.800(11), F.A.C.; 40 CFR 63, Subpart A and 40 CFR 63, Subpart BB]

A.2. Permitted Capacity: The following emissions units are limited to the following maximum daily average P_2O_5 input rates:

E.U. ID. No.	Brief Description	Permitted Variable	DAP Mode	MAP Mode
010	"A" DAP/MAP Plant	P_2O_5 Input (tons/hour)	29.53	33.30
011	"Z" DAP/MAP Plant	P_2O_5 Input (tons/hour)	48.7	55.0
012	"X" DAP/MAP Plant	P_2O_5 Input (tons/hour)	48.7	55.0
		P_2O_5 Input (tons/year)	383,950	335,000
013	"Y" DAP/MAP Plant	P_2O_5 Input (tons/hour)	48.7	55.0

{Permitting note: See Appendix D, Condition 1, for Operation Rate during Testing requirements.}

[Construction Permits Nos. 0570005-034-AC and 0570005-044-AC; Rules 62-296.340(5)(c) (escape BART), 62-4.160(2) and 62-210.200 (Definitions – Potential to Emit (PTE)), F.A.C.]

A.3. Hours of Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

A.4. Fluorides Emissions Standards:

a. The A DAP/MAP Plant (E.U. No. 010) shall not exceed any of the following maximum allowable total fluorides emissions rates:

E.U. ID. No.	Production Mode	lbs. F/Ton P_2O_5	lbs./hr.	TPY
010	DAP	0.06	1.77	7.76
	MAP	0.06	2.00	8.75

[Construction Permit No. AC29-210979 and Rule 62-212.300, F.A.C. and 40 CFR 63.622(b)]

b. The X DAP/MAP Plant (E.U. No. 012) shall not exceed any of the following maximum allowable total fluorides emissions rates:

E.U. ID. No.	Production Mode	lbs. F/Ton P_2O_5	lbs./hr.	TPY
012	DAP	0.035	1.70	6.70
	MAP	0.04	2.20	6.70

The combined total fluoride emission rate for DAP and MAP from the X Plant shall not exceed 6.70 TPY.

[Construction Permit No. AC29-210979 and Rule 62-212.300, F.A.C. and 40 CFR 63.622(b)]

c. The Y DAP/MAP Plant (E.U. No. 013) shall not exceed any of the following maximum allowable total fluorides emissions rates:

E.U. ID. No.	Production Mode	lbs. F/Ton P_2O_5	lbs./hr.	TPY
013	DAP	0.06	2.2	9.6
	MAP	0.06	2.2	9.6

[Construction Permit AC29-165420 and 40 CFR 63.622(a) and (b)]

d. The Z DAP/MAP Plant (E.U. No. 011) shall not exceed any of the following maximum allowable total fluorides emission rates based on the design capacity of 24 tons/hr. of P_2O_5 input.

E.U. ID. No.	Production Mode	lbs. F/Ton P_2O_5	lbs./hr.	TPY
011	DAP	0.06	1.44	6.31
	MAP	0.06	1.44	6.31

[Rule 62-296.403, F.A.C. and 40 CFR 63.622(a)]

A.5. The permittee shall determine compliance with the applicable total fluorides emissions rate in Specific Condition A.4. using the calculations and procedure specified in 40 CFR 63.626(c). The P_2O_5 content (R_p) of the feed shall be determined using as appropriate the methods specified in the "Book of Methods Used and Adopted By The Association Of Florida Phosphate Chemists, Tenth Edition, 2009".

{Permitting Note: 40 CFR 63.626(c)(3)(ii) (in 40 CFR 63, Subpart BB) currently references the "Book of Methods Used and Adopted By The Association Of Florida Phosphate Chemists, Seventh Edition 1991". This permit was updated to require use of the latest version of the "Book of Methods Used and Adopted by The Association Of Florida Phosphate Chemists" at the request of the permittee.}

[Rule 62-204.800(11), F.A.C.; 40 CFR 63.626(c)]

A.6. Particulate Matter Emissions Standards:

a. The A DAP/MAP Plant (E.U. No. 010) shall not exceed any of the following maximum allowable particulate matter emissions standards:

E.U. ID. No.	Production Mode	lbs./hr.	TPY
010	DAP	13.0	56.9
	MAP	13.0	56.9

[Construction Permits 0570005-021-AC/PSD-FL-355 and 0570005-034-AC; Rules 62-296.340(5)(c)(escape BART) and 62-296.700(2)(b) (escape PM RACT), F.A.C.]

b. The X DAP/MAP Plant (E.U. No. 012) shall not exceed any of the following maximum allowable particulate matter emissions standards:

E.U. ID. No.	Production Mode	lbs./hr.	TPY
012	DAP	10.62	41.88
	MAP	13.75	41.88

The combined total particulate matter emission rate for DAP and MAP shall not exceed 41.88 TPY.

[Construction Permit 0570005-034-AC; Rule 62-296.340(5)(c) (escape BART), F.A.C.]

c. The Y DAP/MAP Plant (E.U. No. 013) shall not exceed any of the following maximum allowable particulate matter emissions standards:

E.U. ID. No.	Production Mode	lbs./hr.	TPY
013	DAP	15.3	67.0
	MAP	15.3	67.0

[Construction Permit 0570005-034-AC; Rule 62-296.340(5)(c) (escape BART), F.A.C.]

d. The Z DAP/MAP Plant (E.U. No. 011) shall not exceed any of the following maximum allowable particulate matter emissions standards:

E.U. ID. No.	Production Mode	lbs./hr.	TPY
011	DAP	15.0	65.7
	MAP	15.0	65.7

[Construction Permits 0570005-021-AC/PSD-FL-355 and 0570005-034-AC; Rules 62-296.340(5)(c) (escape BART) and 62-296.700(2)(b) (escape PM RACT), F.A.C.]

TESTING REQUIREMENTS

A.7. Initial Compliance Tests: Each emissions unit shall be tested to demonstrate initial compliance with the emissions standards for Particulate Matter (PM) and Fluoride (F). The initial tests shall be conducted no later than 90 days after initial operation of each unit following the completion of the modifications.
[Rules 62-4.070(3) and 62-297.310(7)(a)1., F.A.C.]

A.8. Compliance Tests After Initial Testing: During each federal fiscal year (October 1st to September 30th), each emissions unit shall be tested to demonstrate compliance with the emissions standards for Particulate Matter (PM) and Fluoride (F).
[Rule 62-297.310, F.A.C.]

A.9. 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.10. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method(s)	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Determination of Particulate Matter Emissions from Stationary Sources
13A	Determination of Total Fluoride Emissions from Stationary Sources – SPADNS –Zirconium Lake Method
13B	Determination of Total Fluoride Emissions from Stationary Sources – Specific Ion Electrode Method (without distillation)

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods 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.11. Test Notification: The permittee shall notify the Compliance Authority in writing at least 60 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), 62-297.310(7)(a)9., F.A.C.; 40 CFR 63, Subpart A, 63.9(e)]

A.12. Notification of Operation Commencement: After the modifications have been completed, the permittee shall notify the Compliance Authority in writing of the date of commencing operation of each emissions unit (EU Nos. 010, 011, 012, and 013) 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.13. 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. Additionally, a summary of the following process data shall be included in any compliance test report:

a. Tons/hr. of P_2O_5 input.
b. Fuel used to fire the dryer.
c. Average heat input rate to the dryer (MMBtu/hr).
d. Copies of records which documents the sulfur content of the fuel oil from the vendor immediately preceding the compliance tests.
e. Copies of the logs and/or charts for the operating parameters required in each emissions unit's corresponding Daily Records sections of current Title V permit (0570005-048-AV).
f. Copies of the logs and/or charts for the operating parameters required by the Daily Records. *Note: Daily Records requirements can be found in current Title V permit (0570005-048-AV) for each emissions unit*.

Failure to submit the above process data with the test report or operating under conditions during testing which are not representative of normal operating conditions may invalidate the tests and fail to provide reasonable assurance of compliance.

[Rules 62-297.310(8)(c), and 62-4.070(3), F.A.C.; Construction Permit No. 0570005-038-AC]

OTHER REQUIREMENTS

A.14. Supplemental Nitrogen Sources: Addition of a UAN/AN solution or an equivalent supplemental nitrogen source approved by the Department of Environmental Protection, to DAP is allowed under the following condition:

- UAN/AN (or an equivalent supplemental nitrogen source) shall be added to the granulator or pre-neutralizer at a normal rate as needed during production and during any granulator stack emissions test while producing DAP.

[Rule 62-4.070(3), F.A.C.; Authorization letter 2/13/97]

{Permitting Note: The Permittee shall keep a log of UAN/AN dosing to granulator and pre-nutralizer during production and stack testing while producing DAP.}

{Permitting Note: Except for the changes specified in the conditions above, these emissions units remain subject to the all other valid conditions contained in the current Title V permit.}