CF Industries, Inc.
Plant City Phosphate Complex

Facility ID No. 0570005
Hillsborough County

Title V Air Operation Permit Revision

Permit No. 0570005-048-AV
(Revision to Title V Air Operation Permit No. 0570005-041-AV)

Permitting Authority:

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Department of Environmental Protection
Air Resource Management, Southwest District

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Compliance Authority:

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Title V Air Operation Permit Revision

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DRAFT/PROPOSED PERMIT

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

Permit No. 0570005-048-AV
Plant City Phosphate Complex
Facility ID No. 0570005
Title V Air Operation Permit Revision

The purpose of this permit is to revise Title V Operation Permit No. 0570005-041-AC to incorporate the provisions of concurrently processed Construction Permit No. 0570005-047-AC for the above referenced facility and to make some additional minor revisions to the Title V Permit. Revisions to this permit are listed below:

(1) In the facility's four sulfuric acid plants (E.U No. 002, 003, 007 and 008) the permittee is authorized by Construction Permit 0570005-047-AC to replace acid coolers in the facility's four sulfuric acid plants with spare coolers, as needed.

(2) In the facility's B Sulfuric Acid Plant (E.U. No. 003), the permittee is authorized by Construction Permit 0570005-047-AC to make several modifications to the plants SO_2 Stripper and associated equipment.

(3) The specific condition associated with Rule 62-296.411, F.A.C. for "Sulfur Storage and Handling Facilities" which applies to E.U. Nos. 022, 023, 024 and 033, was removed because the rule was repealed.

(4) Corrected a typographical error in contained in Table 2 of the Referenced Attachments. The VE test duration for E.U. Nos. 015, 018, 019 and 020 was changed from 60 minutes to 30 minutes.

(5) The specific condition associated with Continuous Monitoring Requirements for SO_2 CEMS in the four sulfuric acid plants (E.U. Nos. 002, 003, 007 & 008) was revised to address 24 hour block average SO_2 emissions.

The existing facility is located in Hillsborough County at 10608 Paul Buchman Highway, Plant City, Florida. UTM Coordinates are: Zone 17, 388.0 km East and 3116.0 km North. Latitude is: 28° 09' 59'' North and Longitude: 82° 08' 27'' West.

The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

Initial Effective Date: November 17, 2011
Revision Effective Date: DATE, 20xx
Renewal Application Due Date: April 16, 2016
Expiration Date: November 17, 2016

(Draft)

_____

Robert C. Wong
District Air Program Administrator
Southwest District

RCW/ds/cm

Subsection A. Facility Description.

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).

This facility is classified as a major source (Title V source) of Nitrogen Oxides (NOx), Particulate Matter - PM10, Sulfur Dioxide (SO_2), Fluorides (FL) and Sulfuric Acid Mist (SAM). Additionally, the Department has determined that this facility is a major source of hazardous air pollutants (HAPs), based upon its estimation of emissions of hydrogen fluoride. If additional testing and modeling demonstrate: (1) that the facility is not and has never been a major source of hazardous air pollutants since at least June 10, 2002, or (2) if prospective changes to Subparts AA and BB warrant such an outcome, the Permittee shall have the right to request that the Department revise the determination of major source status and revise this permit to remove all requirements and conditions based on 40 CFR Part 63.

Subsection B. Summary of Emissions Units.

EU No.	Brief Description
Regulated Emissions Units	
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 Plants
012	“X” DAP/MAP Plants
013	“Y” DAP/MAP Plants
014	“A & B” Storage Buildings
015	“A” Shipping Baghouse
018	“B” Shipping Baghouse
019	“B” Truck Loading
020	“B” Railcar Loading
022	2600 Ton Storage Tank
023	Truck Pit A
024	Truck Pit B
032	Phosphoric Acid Cleanup

033	5000 Ton Storage Tank
100	Phosphogypsum Stack
102	Emergency Diesel Engines (Existing stationary RICE)
Unregulated Emissions Units and Activities	
099	Fugitive emissions : - SO_2, SO_3, SAM emissions from the A, B, C & D Sulfuric Acid Plants - Fluoride emissions from the A & B Phosphoric Acid Plants - Fluoride, NH_3, PM emissions from the A, X, Y & Z Granulation Plants - Hydrogen Fluoride emissions from the Phosphogypsum Stack and Cooling Pond *Note: For this emissions unit, Annual Operation Report (AOR) emissions estimates are required only for the Hydrogen Fluoride emissions from the Phosphogypsum Stack and Cooling Pond.*

Subsection C. Applicable Regulations.

Based on the Title V air operation permit revision ~~renewal~~ application received October 17, 2011 ~~March 2, 2010~~, this facility is a major source of hazardous air pollutants (HAP). Because this facility operates stationary reciprocating internal combustion engines, it is subject to regulation under 40 CFR 63, Subpart ZZZZ, - National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines. The existing facility is a PSD major source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table.

Regulation	**EU No(s).**
40 CFR 60, Subpart A, NSPS General Provisions	003, 007, 008
40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid Plants	003, 007, 008
40 CFR 61, Subpart A, NESHAP General Provisions	100
40 CFR 61, Subpart R, National Emission Standards for Radon Emissions From Phosphogypsum Stacks	100
40 CFR 63, Subpart A, General Provisions	004, 009, 010, 011, 012, 013, 102
40 CFR 63, Subpart AA - National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing Plants	004, 009
40 CFR 63, Subpart BB - National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizers Production Plants.	010, 011, 012, 013
40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	102
Rule 62-296.402, F.A.C.	002, 003, 007, 008
Rule 62-296.403, F.A.C.	004, 009, 010, 011, 012, 013, 032
Rule 62-296.406, F.A.C.	001
~~Rule 62-296.411(1), F.A.C.~~	~~022, 023, 024, 033~~
BACT Determination (Appendix BACT, 0570005-041-AV)	001
BACT Determination (Appendix BACT, PSD-FL-339/0570005-019-AC)	007, 008
BACT Determination (Appendix BACT, PSD-FL-339B/0570005-026-AC.)	007, 008
BACT Determination (Appendix BACT, PSD-FL-355/0570005-021-AC.)	003, 004, 009
Compliance Assurance Monitoring Plan (Appendix CAM)	032

The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. The permittee shall comply with all documents identified in Section IV, Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. **Not federally Enforceable.** Objectionable Odor Prohibited. No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means 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. [Rule 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

{Permitting Note: Nothing is deemed necessary and ordered at this time.}

FW4. General Visible Emissions. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]

FW5. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. keeping covers on process equipment.
b. prompt clean-up of spills within the plant.
c. cleaning or wetting areas used by vehicles and machines.

[Rule 62-296.320(4)(c), F.A.C.]

{Permitting Note: reasonable precautions proposed by applicant in Title V air operation permit application received March 2, 2010}

Annual Reports and Fees

See Appendix RR, Facility-wide Reporting Requirements for additional details.

FW6. Annual Operating Report. The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by April 1st of each year. [Rule 62-210.370(3), F.A.C.]

FW7. Annual Emissions Fee Form and Fee. The annual Title V emissions fees are due (postmarked) by March 1st of each year. The completed form and calculated fee shall be submitted to: Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070. The forms are available for download by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rule 62-213.205, F.A.C.]

FW8. Annual Statement of Compliance. The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit within 60 days after the end of each calendar year during which the Title V permit was effective.
[Rules 62-213.440(3)(a)2. & 3. and (3)(b), F.A.C.]

FW9. Prevention of Accidental Releases (Section 112(r) of CAA).

a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.
b. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the United States Environmental Protection Agency under Section 112(r)(6) of the CAA.
c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S., and Rule 9G-21, F.A.C.
d. Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to: Department of Community Affairs, Division of Emergency Management, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2100, Telephone: (850) 413-9921, Fax: (850) 488-1739.
e. Any Risk Management Plans, original submittals, revisions, or updates to submittals, should be sent to: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650.
f. Any required reports to be sent to the National Response Center, should be sent to: National Response Center, EPA Office of Solid Waste and Emergency Response, USEPA (5305 W), 401 M Street SW, Washington, D.C. 20460, Telephone: (800) 424-8802.
g. Send the required annual registration fee using approved forms made payable to: Cashier, Department of Community Affairs, State Emergency Response Commission, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S.; and, Rule 9G-21, F.A.C.]

FW10. Emissions Unit Descriptions. This permit contains a subsection for each emissions unit that includes a description of the emissions unit. That description is presented for informational purposes only and is not enforceable.

Subsection A. Emissions Unit 001

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
-001	Johnson Scotch Marine Type Boiler

This emissions unit consists of a Johnson Scotch Boiler. The boiler has a maximum heat input rate is 83.3 MMBtu/hour and a design capacity of 69,000 pounds per hour of steam. The boiler is fired with natural gas as the primary fuel and with No. 2 fuel oil as standby fuel.

{Permitting Note: This emissions unit is regulated under Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with less than 250 Million BTU per Hour Heat Input, New and Existing Emissions Units.}

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum allowable heat input rate is as follows:

EU No.	MMBtu/hr Heat Input	Fuel Type
001	83.3 (daily average basis)	Natural gas or New No. 2 fuel oil

{Permitting Note: A heat input rate of 83.3 MMBtu/hour corresponds to 89,800 cubic feet per hour of natural gas or 660 gallons per hour of new No. 2 distillate fuel oil.}

[Rules 62-4.160(2), 62-204.800, 62-210.200 (Definitions – Potential to Emit (PTE)) and 62-296.406, F.A.C.; Construction Permit AC29-35256]

A.2. Methods of Operation. The fuels that are allowed to be burned in this unit are:
a. Natural gas and
b. New No. 2 fuel oil with a maximum sulfur content of 0.05%, by weight.

{Permitting Note: See Appendix BACT, 0570005-41-AV}

[Rules 62-213.410 and 62-296.406, F.A.C.; Construction Permit AC29-35256; BACT Determination 0570005-041-AV]

A.3. Hours of Operation. This emissions unit may operate continuously (8,760 hours/year). The hours of operation for this emissions unit shall not exceed 400.0 hours in any 12 consecutive month period while fired on New No. 2 fuel oil.

{Permitting Note: Requested by Permittee, March 3, 1998}

[Rule 62-210.200(PTE), F.A.C.]

A.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements.
[Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

{*Permitting Note: The attached Table 1, Summary of Air Pollutant Standards, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

Unless otherwise specified, the averaging time for Specific Condition **A.5.** is based on the specified averaging time of the applicable test method.

A.5. Visible Emissions. Visible emissions shall not exceed 20% opacity except for one two-minute period per hour during which opacity shall not exceed 40%.
[Rule 62-296.406(1), F.A.C.]

Excess Emissions

A.6. Excess Emissions Requirements. See requirements for "Excess Emissions" contained in Subsection L, Common Conditions.
[Rule 62-210.700, F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.7. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources (The test method shall be DEP Method 9 and the minimum duration shall be sixty minutes)

The above methods are described in Rule 62-297.401, F.A.C. and 40 CFR 60, Appendix A, and 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 62-297.401, F.A.C.]

A.8. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

A.9. Compliance Tests Prior To Renewal. Compliance tests shall be performed for the boiler (E.U. ID No. 001) once every 5 years. The tests shall occur during the 12-month period prior to submitting the Title V air operation permit renewal application to demonstrate compliance with the visible emission limits of this emissions unit.
[Construction Permit 0570005-044-AC; Rules 62-210.300(2)(a) and 62-297.310(7)(a), F.A.C.]

A.10. Emissions Unit Shutdown Prior To Renewal.

a. The operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:

   1) the Permittee demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the Permittee's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and

   2) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down.

b. The operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emission unit is not maintained in operational condition, provided the conditions given in specific condition **A.10.a.** above are met and the Permittee demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship.

[Rule 62-210.300(2)(a)3.b. and c., F.A.C.]

Recordkeeping and Reporting Requirements

A.11. Test Reports. The Permittee shall submit the following information with the compliance test report: a statement of the operating mode (heat input rate) and type of fuel used, and a copy of the fuel oil usage log for the month the test was conducted as required by specific condition A.12. Failure to submit the required information, or operating at conditions which do not reflect the normal operating conditions, may invalidate the data.
[Rules 62-297.310(4)(a)2., 62-297.310(7)(a)5., and 62-4.070(3), F.A.C.]

A.12. Daily Fuel Records. If fuel oil was used, to document continuing compliance with specific conditions A.1, A.2, and A.3, the permittee shall maintain daily records of the type of fuel fired, the quantity of fuel fired, the daily average heat input rate (MMBtu/hr) and the total hours of operation of this boiler on fuel oil.
[Rule 62-4.070(3), F.A.C.]

A.13. Fuel Oil Analysis and Documentation. If No. 2 fuel oil was used, then to document compliance with Specific Condition A.2 regarding the type of fuel oil (No. 2 fuel oil) and the fuel oil sulfur limit (0.05% by weight), the permittee shall provide either;
a. vendor certified documentation that the fuel oil delivered was No. 2 oil, or
b. a fuel oil analysis indicating the sulfur content, by weight.
[Rules 62-213.440(1)(b)2.b. and 62-4.070(3), F.A.C.]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-002	"A" Sulfuric Acid Plant
-003	"B" Sulfuric Acid Plant
-007	"C" Sulfuric Acid Plant
-008	"D" Sulfuric Acid Plant

This subsection applies to the four sulfuric acid plants (SAP), as described below:

Sulfuric Acid Plants "A" and "B"

The "A" Sulfuric Acid Plant has a maximum permitted production rate of 1,300 tons per day of 100% sulfuric acid. The "B" Sulfuric Acid Plant has a maximum permitted production rate of 1,600 tons per day of 100% sulfuric acid. In the process, molten sulfur is combusted (oxidized) with dry air in the sulfur furnace. The resulting sulfur dioxide gas is catalytically converted (further oxidized) to sulfur trioxide in a converter tower. Specifically, the converter tower is a 4-bed tower in the "A" Sulfuric Acid Plant and a 5-bed tower in the "B" Sulfuric Acid Plant. Sulfur trioxide is then absorbed in an approximately 98% H_2SO_4 stream to form a more concentrated acid in a single stage absorption tower (final stage of production). In the "A" Sulfuric Acid Plant, the heat generated by the chemical reactions in the sulfur furnace and the 4-bed converter tower is recovered to operate two boilers and an economizer. In the "B" Sulfuric Acid Plant, the heat generated by the chemical reactions in the sulfur furnace and the 5-bed converter tower is recovered to operate two boilers, two economizers and two superheaters. (The boilers, economizers and superheaters are not sources of air pollution.)

Sulfur dioxide and sulfuric acid mist (acid mist) emissions at each plant are controlled by a two-stage SO_2 scrubber (with ammonia as the scrubbing liquid) and a high-efficiency mist eliminator and exhausted through an approximately 110-foot stack.

A Sulfuric Acid Mist Emissions Prevention Plan (Plan) for the "A" Sulfuric Acid Plant is included as "Appendix SAM" as required in paragraph 6 of the Consent Order (EPC Case #: 00-0126CCG005) between the Environmental Protection Commission of Hillsborough County (EPC) and CF Industries, Inc. (Respondent).

The following acid cooler replacements are authorized for Sulfuric Acid Plants "A" and "B":

(1) SAP A - Dryer CIL Acid Cooler
(2) SAP B - Dryer CIL Acid Cooler
(3) SAP A - Sulfuric Acid Product Cooler
(4) SAP B - Sulfuric Acid Product Cooler
(5) SAP A - Absorber CIL Cooler
(6) SAP B - Absorber CIL Cooler

The primary purpose of each acid cooler is to maintain acid temperatures below levels that cause excessive corrosion to the process equipment. Due to corrosion and deterioration, periodic repair and replacement of these acid coolers will be necessary and is authorized by this permit. Additionally, the temperature of the acid in the process will only affect the equilibrium vapor pressure of SO_3 of the gas in contact with the acid and therefore, only sulfuric acid mist (SAM) emissions could be affected.

Replacement of acid coolers (1) through (4) will not affect emissions and therefore are not subject to the monitoring, reporting and recordkeeping requirements of Rule 62-212.300(1)(e), F.A.C. In each plant, these acid coolers handle sulfuric acid streams that do not interact directly with the SO_2 converter, absorber tower and SO_2 scrubber.

Replacement of acid coolers (5) and (6) could affect emissions and therefore are subject to the monitoring, reporting and recordkeeping requirements of Rule 62-212.300(1)(e), F.A.C. In each plant, these acid coolers handle sulfuric acid streams that interact directly with the SO_2 converter, absorber tower and SO_2 scrubber. SAM and SO_2 emissions are present/generated/or controlled in the SO_2 converter, absorber tower and SO_2 scrubber.

The following SO_2 Stripper modifications are authorized in Construction Permit 0570005-047-AC for Sulfuric Acid Plant "B " and will be completed as outlined in Appendix CP-1: (a) Install a larger carryover return from the SO_2 Stripper (increase diameter from approximately 30 to 36 inches); (b) increase the SO_2 Stripper blower capacity from approximately 6 psig and 1900 scfm to approximately 9 psig and 2400 scfm; (c) replace the SO2 Stripper mist eliminators other than like-kind; and (d) install a larger diameter SO_2 stripper tower (increase tower diameter from approximately 30 to 36 inches) if needed.

Sulfuric Acid Plants "C" and "D"

Each plant is a Monsanto Design, double absorption sulfuric acid plant, with a maximum design production rate of 2,962 tons per day of 100% sulfuric acid and permitted production rate of 2,600 tons per day of 100% sulfuric acid. At the plant, dry air and molten sulfur are ignited in a sulfur burner. The combustion gases, primarily sulfur dioxide (SO_2), are passed through a 3-stage catalytic converter where SO_2 is converted to sulfur trioxide (SO_3). The gases, now primarily SO_3, enter the interpass tower where the SO_3 is absorbed into a sulfuric acid solution. The remaining gases (a mixture of SO_2, SO_3 and other products) exit the interpass tower through a high-efficiency mist eliminator. The gas then enters the 4th stage of the catalytic converter where additional SO_2 is converted to SO_3. This gas enters the final tower where SO_3 is again absorbed into a sulfuric acid solution. The remaining gases exit through a high-efficiency mist eliminator to the atmosphere with the limits established by the Best Available Control Technology (BACT). The plant also incorporates a Waste Heat Boiler System for generating steam from the energy produced by the combustion of molten sulfur in air.

The permittee has completed the following modifications to the sulfuric acid plants "C" and "D" which were authorized in Construction Permit 0570005-026-AC/PSD-FL-339B: installed low pressure drop packing in final, drying and interpass absorption towers; modified the de-aerator feed tank pumps; modified the acid cooling system; upgraded the main blower turbine (increase horsepower); installed a new cooling tower cell; and increased sulfur throughput. Work is in progress for the following two items for each of "C" and "D" sulfuric acid plants and expected to be completed in 2013: (a) Install new boiler feed water pumps and motors; and, (b) Structural improvements to several pieces of equipment to safely operate at the new blower discharge pressures.

The following acid cooler replacements are authorized for Sulfuric Acid Plants "C" and "D":

(1) SAP C - Dryer Acid Cooler
(2) SAP D - Dryer Acid Cooler
(3) SAP D - Product Acid Cooler
(4) SAP C - Product Acid Cooler
(5) SAP C - Trim Acid Cooler
(6) SAP D - Trim Acid Cooler
(7) SAP C - Interpass Acid Cooler
(8) SAP D - Interpass Acid Cooler
(9) SAP C - Final Acid Cooler
(10) SAP D - Final Acid Cooler

The primary purpose of each acid cooler is to maintain acid temperatures below levels that cause excessive corrosion to the process equipment. Due to corrosion and deterioration, periodic repair and replacement of these acid coolers will be necessary and is authorizes by this permit. Additionally, the temperature of the acid in the

process will only affect the equilibrium vapor pressure of SO3 of the gas in contact with the acid and therefore, only sulfuric acid mist (SAM) emissions could be affected.

Replacement of acid coolers (1) through (6) will not affect emissions and therefore are not subject to the monitoring, reporting and recordkeeping requirements of Rule 62-212.300(1)(e), F.A.C. In each plant, these acid coolers handle sulfuric acid streams that do not interact directly with the SO_2 converter and absorber towers.

Replacement of acid coolers (7) through (10) could affect emissions and therefore are subject to the monitoring, reporting and recordkeeping requirements of Rule 62-212.300(1)(e), F.A.C. In each plant, these acid coolers handle sulfuric acid streams that interact directly with the SO_2 converter, absorber tower and SO_2 scrubber. SAM and SO_2 emissions are present/generated/or controlled in the SO_2 converter and absorber towers.

{Permitting notes: These emissions units are regulated under Rule 296.402., F.A.C., Emission Standards for Sulfuric Acid Plants; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; and Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD). Sulfuric Acid Plants "C" and "D," and the sulfuric acid mist emissions from Sulfuric Acid Plant "B" are subject to NSPS standards 40 CFR 60 Subpart A and Subpart H. Sulfuric Acid Plant "A" is classified as existing facilities under NSPS rules. Sulfuric Acid Plant "B" (for emissions other than sulfuric acid mist) is also classified as existing facilities under NSPS rules.}

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum allowable production rates are as follows:

E.U. No.	Plant Name	Maximum Production Rate
002	"A" SAP	1,300 tpd of 100% H_2SO_4
003	"B" SAP	1,600 tpd of 100% H_2SO_4
007	"C" SAP	2,600 tpd of 100% H_2SO_4
008	"D" SAP	2,600 tpd of 100% H_2SO_4

[Construction Permit 0570005-034-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.]

B.2. Hours of Operation. These emissions units may operate continuously (8,760 hours/year).
[Rule 62-210.200 (PTE), F.A.C.]

B.3. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements.
[Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

{*Permitting Note: The attached Table 1, Summary of Air Pollutant Standards, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

Unless otherwise specified, the averaging times for Specific Conditions **B.4.-B.7.** are based on the specified averaging time of the applicable test method.

B.4. Visible Emissions. Visible emissions shall not exceed 10% opacity (except during start-up, shutdown, or malfunction, pursuant to Rule 62-210.700, F.A.C.).
[E.U. No. 002: Rule 62-296.402(1)(b)1, F.A.C.]
[E.U. No. 003, 007 & 008: Rules 62-296.402(1)(b)1. and 62-204.800(8)(b)11., F.A.C.; 40 CFR 60.83(a)(2)]

B.5. SO_2 Emissions Standards. The maximum allowable emission rates for SO_2 are as follows:

Sulfur Dioxide (SO_2)			
E.U. No.	**Plant Name**	**Rolling/ block average based on CEMS data***	**Consecutive 12-month rolling total based on CEMS data***
002	"A" SAP	**3-hour rolling average:** 5.6 lbs/ton of 100% H_2SO_4 Produced ; {Equivalent to 303.3 lb/hr at 1,300 tpd of 100% H_2SO_4 } **24-hour (daily) block average:** 75.8 lb/hr; {Equivalent to 1.4 lbs/ton of 100% H_2SO_4 Produced at 1,300 tpd}	332 tons/yr
003	"B" SAP	**3-hour rolling average:** 3.5 lbs/ton of 100% H_2SO_4 Produced; {Equivalent to 233.3 lb/hr at 1,600 tpd of 100% H_2SO_4 } **24-hour (daily) block average:** 93.3 lb/hr; {Equivalent to 1.4 lbs/ton of 100% H_2SO_4 Produced at 1,600 tpd}	409 tons/yr
007	"C" SAP	**3-hour rolling average:** 3.25 lbs/ton of 100% H_2SO_4 Produced; {Equivalent to 352 lb/hr at 2,600 tpd of 100% H_2SO_4 } **24-hour (daily) block average:** 303.3 lb/hr; {Equivalent to 2.8 lbs/ton of 100% H_2SO_4 Produced at 2,600 tpd}	1,329 tons/yr
008	"D" SAP	**3-hour rolling average:** 3.25 lbs/ton of 100% H_2SO_4 Produced; { Equivalent to 352 lb/hr at 2,600 tpd of 100% H_2SO_4 } **24-hour (daily) block average:** 303.3 lb/hr; {Equivalent to 2.8 lbs/ton of 100% H_2SO_4 Produced at 2,600 tpd}	1,329 tons/yr

Sulfur Dioxide (SO_2)			
E.U. No.	**Plant Name**	**Rolling/ block average based on CEMS data***	**Consecutive 12-month rolling total based on CEMS data***
*As described in Specific Condition No. **B.13.**			

[Construction Permits 0570005-020-AC, 0570005-021-AC/PSD-FL, 0570005-026-AC/PSD-FL-339B and 0570005-034-AC; Rules 62-296.402, 62-4.340(5)(c) (escape BART), 62-4.070(1)&(2) and 62-213.440(1), F.A.C.; 40 CFR 60, Subpart H]

{Permitting notes:

(1) *24-hour (daily) block CEMS average limits were established based on the emissions rate averaging period of 24-hour (daily) used in dispersion modeling. Annual stack testing for SO_2 emissions is not required for compliance demonstration.*

(2) *The sulfur dioxide emissions standards of Rules 62-296.402, F.A.C. and 40 CFR 60, Subpart H are applicable; however, these standards have been superseded by more stringent requirements established in construction permits. The 3-hour standard for E.U. No. 002 was established in Construction Permits 0570005-020-AC and 0570005-021-AC/PSD-FL, the 3-hour standard for E.U. No. 003 was established in Construction Permit 0570005-021-AC/PSD-FL, and the 3-hour standards for E.U. No. 007 & 008 were established in Construction Permit 0570005-026-AC/PSD-FL 339B.*

(3) *E.U. No. 002 has two SO_2 24-hour averages. A 24-hour average of 75.8 lb/hr established was in Permit 0570005-034-AC and a 24-hour average of 250 lb/hr established in 0570005-021-AC/PSD-FL. The more stringent 24-hour average of 75.8 lb/hr is listed as the SO_2 standard in the table above.}*

B.6. SAM Emissions Standard. The maximum allowable emission rates for SAM are as follows:

Sulfuric Acid Mist (SAM)			
E.U. No.	**Plant Name**	**Allowable Emissions Rate**	**Annual Allowable Emissions Rate**
002	"A" SAP	0.3 lb/ton of 100% H_2SO_4 Produced; {1.43 lbs/hr (each hour)}	6.3 tons/yr
003	"B" SAP	0.075 lb/ton of 100% H_2SO_4 Produced; {1.8 lbs/hr (each hour)}	7.9 tons/yr
007	"C" SAP	0.093 lb/ton of 100% H_2SO_4 Produced; {10.1 lbs/hr}	44.2 tons/yr
008	"D" SAP	0.093 lb/ton of 100% H_2SO_4 Produced; {10.1 lbs/hr}	44.2 tons/yr

[Construction Permits 0570005-020-AC, 0570005-026-AC/PSD-FL-339B and 0570005-034-AC; Rules 62-296.402, 62-4.340(5)(c) (escape BART), 62-4.070(1)&(2) and 62-213.440(1), F.A.C.; 40 CFR 60, Subpart H]

{Permitting notes: The SAM emissions standards of Rules 62-296.402, F.A.C. and 40 CFR 60, Subpart H are applicable; however, these standards have been superseded by more stringent requirements established in construction permits. The emissions standard for E.U. No. 002 was established in Construction Permits 0570005-020-AC and 0570005-034-AC. The emissions standard for E.U. No. 003 was established in Construction Permit 0570005-034-AC. Two emissions standards for E.U. No. 007 &

008 were established in Construction Permits 0570005-026-AC/PSD-FL 339B (11.4 lbs/hr) and 0570005-034-AC(10.1 lbs/hr) and the more stringent emissions standard (10.1 lb/hr) is listed as the SAM emissions standard in the table above. }

B.7. NOx Emissions Standard. The maximum allowable emission rates for NOx are as follows:

Nitrogen Oxides (NOx)			
E.U. No.	**Plant Name**	**Allowable Emissions Rate**	**Annual Allowable Emissions Rate**
002	"A" SAP	0.12 lb/ton of 100% H_2SO_4 Produced; {6.5 lb/hr}	28.5 tons/year
003	"B" SAP	0.12 lb/ton of 100% H_2SO_4 Produced; {8.0 lb/hr}	35.0 tons/year
007	"C" SAP	0.11 lb/ton of 100% H_2SO_4 Produced; {11.9 lb/hr}	52.1 tons/year
008	"D" SAP	0.11 lb/ton of 100% H_2SO_4 Produced; {11.9 lb/hr}	52.1 tons/year

[Construction Permit 0570005-021-AC/PSD-FL-355, 0570005-026-AC/PSD-FL-339B and 0570005-034-AC; Rules 62-4.340(5)(c) (escape BART), 62-4.070(1)&(2) and 62-213.440(1), F.A.C.]

{Permitting notes: The NOx emissions standard for E.U. No. 002 was established in Construction Permit 0570005-034-AC. The emissions standard for E.U. No. 003 was established in Construction Permits 0570005-021-AC/PSD-FL-355 and 0570005-034-AC. Two standards for E.U. No. 007 & 008 were established in Construction Permits 0570005-026-AC/PSD-FL 339B (13.6 lb/hr) and 0570005-034-AC(11.9 lbs/hr) and the more stringent NOx emissions standard (11.9 lb/hr) is listed as the NOx emissions standard in the table above. }

B.8. This permit acknowledges that leaks of sulfur dioxide and sulfur trioxide or other fugitive process emissions that do not pass through a stack may occur as part of routine operations. Best operation practices to minimize these emissions shall be adhered to and shall include regular inspections and the prompt repair or correction of any leaks or other fugitive emissions.
[Construction Permits AC29-200648, AC29-186931/PSD-FL-155; 0570005-026-AC/PSD-FL-339B, 0570005-020-AC and 0570005-021-AC/PSD-FL-355]

B.9. The 4th converter pass of the "C" and "D" sulfuric acid plants contains approximately 165,000 liters cesium promoted vanadium catalyst. A change to non-cesium promoted catalyst or switch to another SO_2 control strategy shall not occur without the Department's review and approval and shall require submittal of a permit modification request to revise the Best Available Control Technology Determination.
[Construction Permits 0570005-019-AC/PSD-FL-339, 0570005-026-AC/PSD-FL 339B]

Excess Emissions

B.10. Excess Emissions Requirements. See requirements for "Excess Emissions" contained in Subsection L, Common Conditions.
[Rule 62-210.700, F.A.C.]

Authorized Maintenance

B.11. Acid Cooler Replacement. This permittee is authorized to replace the following acid coolers on a temporary or on a long term/permanent basis:

E.U. No.	Plant Name	Acid Cooler Descriptions
002	"A" SAP	- Dryer CIL Acid Cooler - Sulfuric Acid Product Cooler
003	"B" SAP	- Dryer CIL Acid Cooler - Sulfuric Acid Product Cooler
007	"C" SAP	- Dryer Acid Cooler - Product Acid Cooler - Trim Acid Cooler
008	"D" SAP	- Dryer Acid Cooler - Product Acid Cooler - Trim Acid Cooler

{Permitting Note: Replacement of the acid coolers listed above will not affect emissions. In each plant, these acid coolers handle sulfuric acid streams that do not interact directly with the SO_2 converter, absorber tower and SO_2 scrubber. Sulfuric Acid Mist (SAM) and SO_2 emissions are present/generated/or controlled in the SO_2 converter, absorber tower and SO_2 scrubber}

[Construction Permit 0570005-047-AC, F.A.C.; Effective Date: mm/dd/yyyy]

B.12. Acid Cooler Replacement (with 5 year monitoring). This permittee is authorized to replace the following acid coolers on a temporary basis or on a long term/permanent basis. The 5 year monitoring, reporting and recordkeeping requirements of Rule 62-212.300(1)(e), F.A.C. will become applicable with each cooler replacement:

E.U. No.	Plant Name	Acid Cooler Descriptions
002	"A" SAP	- Absorber CIL Cooler
003	"B" SAP	- Absorber CIL Cooler
007	"C" SAP	- Interpass Acid Cooler - Final Acid Cooler
008	"D" SAP	- Interpass Acid Cooler - Final Acid Cooler

{Permitting Note: Replacement of the acid coolers could affect emissions. In each plant, these acid coolers handle sulfuric acid streams that interact directly with the SO_2 converter, absorber tower and SO_2 scrubber. Sulfuric Acid Mist (SAM) and SO_2 emissions are present/generated/or controlled in the SO_2 converter, absorber tower and SO_2 scrubber}

[Construction Permit 0570005-047-AC, F.A.C.; Effective Date: mm/dd/yyyy]

Continuous Monitoring Requirements

B.13. SO_2 Continuous Emissions Monitoring System (CEMS).

a. In accordance with the New Source Performance Standards (NSPS) (40 CFR 60, Subpart H) requirements for sulfuric acid plants, the permittee shall continue to properly calibrate, maintain and operate a CEMS to measure and record emissions of SO_2.

b. 40 CFR 60, Subpart H and Construction Permits 0570005-020-AC, 0570005-021-AC/PSD-FL and 0570005-026-AC/PSD-FL-339B requires the use of CEMS to be used to determine compliance with the 3-hour rolling average emissions limit for SO_2.

c. The BART exemption determination (Construction Permit 0570005-034-AC) requires the use of an SO_2 CEMS to be used to demonstrate continuous compliance with the 24-hour (daily) block average SO2 emissions standards and limits.

d. The CEMS shall be operated in compliance with 40 CFR 60, Appendix A, General Provisions; 40 CFR 60, Appendix B, Performance Specification 2; 40 CFR 60, Appendix F, Quality Assurance Procedures for Gas CEMS, and other Department-approved QA/QC plans.

e. The CEMS shall calculate and record emission rates in units of pounds SO_2 per ton of 100 percent sulfuric acid produced. Each operating day, the rolling averages of the SO_2 emission rate for the 3 hour periods shall be calculated and recorded. Emissions shall be calculated in units of pounds of SO_2 per ton of 100 percent acid produced using one of the methods specified in 40 CFR 60.84. The 24-hour block averages shall be calculated in units of pounds per hour. The permittee may select either 6am-6am or 12am-12am for the 24-hour block period. The 24-hour block period shall be adjusted to a 23-hour or 25-hour block period to accommodate daylight savings time. Averages are to be calculated as the arithmetic mean of each monitored operating hour in which sulfur is burned in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when sulfur is not burned in the unit, or when the CEMS is out of control as defined in 40 CFR 60, Appendix F, Section 5.2, shall be excluded from the 3-hour rolling and 24-hour block averages. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the calculation of the 3-hour rolling and 24-hour block averages. When demonstrating compliance with the 12-month rolling total, all valid CEMS emissions data shall be used.

f. To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and 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.

g. The monitoring device shall meet the applicable requirements of Chapter 62-204, F.A.C., 40 CFR 60, Appendix F, and 40 CFR 60.13, including certification of each CEMS in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) Notification Requirements. Data on monitoring equipment specifications, manufacturer, type calibration and maintenance requirements, and the FINAL 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 62-296.340(5)(c) (escape BART),62-4.070(1)&(3), 62-213.440(1) and 62-204.800, F.A.C.; 40 CFR 60, Subpart H; Construction Permits 0570005-020-AC, 0570005-021-AC/PSD-FL,0570005-026-AC/PSD-FL-339B and 0570005-034-AC]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.14. Test Methods. Required tests to demonstrate compliance with the Nitrogen Oxide (NOx), Sulfuric Acid Mist (Acid Mist) and Visible Emissions (VE) Standards, shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
8	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in 40 CFR 60, Appendix A, and 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.

[Rules 62-296.402(3), 62-297.310(4)(a)2. and 62-297.401, F.A.C., Construction Permit 0570005-026-AC/PSD-FL 339B]

B.15. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

B.16. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), the sulfuric acid plants (SAPs "A", "B", "C", and "D") shall be tested to demonstrate compliance with the emissions standards for Sulfuric Acid Mist (Acid Mist), Nitrogen Oxide (NOx) and Visible emissions (VE). Testing procedures shall be consistent with the requirements of Chapter 62-297, F.A.C.

[Rules 62-296.402 and 62-297.310(8)(b), F.A.C.]

B.17. Acid Cooler Replacement Compliance Tests. Each time one of the acid coolers listed in Specific Condition No. B.12. is replaced; the affected sulfuric acid plants (i.e., SAPs "A", "B", "C", or "D") shall be tested to demonstrate compliance with the emissions standards for Sulfuric Acid Mist (Acid Mist) and visible emissions (VE). The tests shall be conducted no later than 90 days after initial operation of the unit following the replacement of acid cooler.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.; Effective Date: mm/dd/yyyy]

Recordkeeping and Reporting Requirements

B.18. A continuous emission monitoring system (CEMS) to determine Sulfur Dioxide (SO_2) emissions from this source shall be operated, calibrated, and maintained in accordance with Rule 62-296.402(4), F.A.C. The Permittee shall use the equation cited in 40 CFR 60.84(d) to convert CEM data into pounds of SO_2 per ton of 100% sulfuric acid produced.
[40 CFR 60.84 and Rule 62-296.402(4), F.A.C., and Construction Permits AC29-200648 and 0570005-020-AC]
{Permitting note: See 40 CFR 60, Subpart H for equation cited in 40 CFR 60.84(d).}

B.19. The Permittee shall operate and maintain equipment and/or instruments necessary to determine the daily production rate of H_2SO_4. The metered production will be confirmed within 10% of its true value by comparison with the sulfur consumption at the end of each month.
[Rule 62-297.310(5)(b), F.A.C.]

B.20. Daily H_2SO_4 Production Records. To document compliance with the maximum allowable production rates of Specific Condition No. **B.1**, the Permittee shall maintain daily records of H_2SO_4 production. These records shall be based upon data obtained from acid flow meters measuring acid flow rates to storage as well as transfers between plants. Flow meter information and documentation as to how daily production rates were calculated shall be included as part of the records.
[Rule 62-4.070(3), F.A.C. and Permittee letter of November 16, 1993 submitted as a supplement to permit application for Plants "A" and "B"]

B.21. Daily and Monthly SO_2 Emissions Records. A CEMS is used to determine compliance with the sulfur dioxide emission limits in Specific Condition No. **B.5**. To document ongoing compliance with the sulfur dioxide emissions limits, the permittee shall maintain the following records for each day of the month:

a. daily acid production (in tons as 100% H_2SO_4);
b. daily hours operated;
c. 24-hour (daily) block average SO_2 emission rate (in lbs/hr);
d. maximum 3-hr. average SO_2 emission rate (in lbs/ton of 100% H_2SO_4 produced);
e. total SO_2 emission (in tons) for the most recent month; and
f. total SO_2 emissions (in tons) for the most recent consecutive 12 month period.

The monthly records shall also show the sulfur dioxide emission limits in Specific Condition No. **B.5**.

[Rule 62-4.070(3), F.A.C., Construction Permits AC29-200648 and 0570005-020-AC, and Appendix 1 to Permittee letter of November 16, 1993 submitted as a supplement to permit application]

B.22. Quarterly SO_2 Excess Emissions Reports. A report shall be submitted to the Air Compliance Section of the Environmental Protection Commission of Hillsborough County (EPCHC) and the Department within 30 days following each calendar quarter detailing all periods of excess sulfur dioxide emissions recorded by the CEMS during that three month period. The report shall include the magnitudes of the excess emissions, the duration of each excess emission period, the cause of the abnormal event, and the action taken to correct it. The excess emission report shall also include a statement of all periods during the quarter when the sulfur dioxide monitoring system was inoperative, reason for the downtime and action taken.
[Rules 62-296.402(5), 62-4.070(3) and 62-204.800, F.A.C.; 40 CFR 60.7(c)]

B.23. Abnormal Event Reports. The Permittee shall promptly notify* the EPCHC's Air Management Division of any abnormal event** associated with the operation of the source which results in elevated emissions. Notification shall include the following:
a. Facility and Source Name;
b. Cause;
c. Time and duration of the abnormal event;
d. CEM readings or magnitude of the emissions;
e. Steps taken to reduce emissions if the abnormal event is still occurring:
f. Identification of person reporting the abnormal event.

A reportable abnormal event does not necessarily constitute a permit violation.

*For purposes for this condition, prompt notification shall mean "within thirty (30) minutes following detection of the reportable event by the Permittee as long as reasonable care is taken in monitoring the source."

**For purposes of this condition, abnormal events shall, in part, include:

For all startups (hot and cold): the time when the unit will begin to burn sulfur, and shutdowns and malfunctions as defined in 40 CFR 60.2 and Rule 62-210.200, F.A.C.

[Construction Permits AC29-200648 and AC29-186931/PSD-FL-155]

B.24. Acid Cooler Replacement Records. The permittee shall maintain records listing the all acid cooler replacement for the acid coolers listed in Specific Condition No. B.12. The records should include the emissions unit number, the name of the acid cooler to be replaced, the date the replacement occurs, and general specifications for the old acid cooler and for the replacement acid cooler (i.e., heat transfer area, number of tubes/tube length, and shell diameter). The records shall be kept in a readily accessible location.
[Rule 62-4.070, F.A.C.]

The Following Common Conditions Apply to EU Nos. 002 and 003 ("A" & "B" SAPs) Only:

B.25. Based upon the increase in actual emission of sulfuric acid mist associated with the modifications permitted on the air construction permit AC29-200648, Sulfuric Acid Plant "B" is subject to and shall comply with the Federal New Source Performance Standards (NSPS) 40 CFR 60.80-85 (Subpart H - Standards of Performance for Sulfuric Acid Plants) as they apply to emissions of sulfuric acid mist only.
{Note: "A" Sulfuric Acid Plant is not subject to 40 CFR 60 Subpart H}
[Rule 62-204.800, F.A.C.]

B.26. "A" and "B" Sulfuric Acid Plants shall comply with Appendix SAM, "Sulfuric Acid Mist Emissions Prevention Plan".
[Consent Order (EPC Case #: 00-0126CCG005); Applicant request; and Construction Permit 0570005-020-AC]

B.27. If the permittee requests relaxation of any of the federally enforceable limits in Air Construction permit AC29-200648, then the Department will determine whether the NSR requirements of Rule 62-212.400, F.A.C. shall apply. The Department determined in the Technical Evaluation for Air Construction permit 0570005-020-AC that, since continuous emissions monitors for SO_2 would be used for the method of compliance, and since the Sulfuric Acid Mist Emissions Prevention Plan will be applied to both "A" and "B" Sulfuric Acid Plants, elimination of the required monitoring of SO_2 scrubber parameters would not be a relaxation of any federally enforceable limits.
[Rule 62-212.400(2)(g), F.A.C., and Construction Permits AC29-200648 and 0570005-020-AC]

Other Requirements

B.28. Federal Rule Requirements. Sulfuric Acid Plants "B", "C" and "D" (E.U. Nos. 003, 004 & 008) are subject to the applicable requirements contained in 40 CFR 60 Subpart A - General Provisions and 40 CFR 60 Subpart H – Standards of Performance for Sulfuric Acid Plants.

{Permitting Note: Sulfuric Acid Plant "B" is subject to 40 CFR 60, Subpart H for sulfuric acid mist only. Please see "Appendix NSPS - 40 CFR 60 Subpart H" and "Appendix NESHAP - 40 CFR 63 Subpart AA"}

[Rules 62-213.440, F.A.C. and 62-204.800(8), F.A.C. and 40 CFR 60, Subparts A and H]

B.29. Notification of Operation Commencement – Following Acid Cooler Replacement. The permittee shall notify the Compliance Authority in writing of the date of commencing operation of Sulfuric Acid Plant "A", "B" , "C" or "D" following the replacement of any acid coolers listed in Specific Condition No. B.12. no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose. The notification shall include a copy of the "Acid Cooler Replacement Records" specified in Specific Condition B.24.
[Construction Permit 0570005-047-AC, F.A.C, Rule 62-4.070 and 62-210.200, F.A.C., (Definition of Commence Operation); Effective Date: mm/dd/yyyy]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-004	"A" Phosphoric Acid Plant
-009	"B" Phosphoric Acid Plant

This subsection applies to the two phosphoric acid plants (PAP), as described below.

"A" Phosphoric Acid Plant

The "A" Phosphoric Acid Plant has a maximum permitted production rate of 1,699 tons per day of 100% phosphoric acid. 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.

"B" Phosphoric Acid Plant

The "B" Phosphoric Acid Plant has a maximum permitted production rate of 2,530 tons per day of 100% phosphoric acid. Fluoride emissions from this plant are controlled by a packed bed scrubber with "Kimre" packing or equivalent packing. Typical gas flow rate through the scrubber is approximately 48,000 DSCFM. The scrubber uses pond water as the scrubbing liquid.

Other Activities

For each plant ("A" PAP and "B" PAP), phosphoric acid transfers to and from the storage tanks and operation of the evaporation process is permitted up to a maximum of 730 hours per year, during periods when the plants scrubbing system is not operating due mainly to scrubber maintenance activities.

{Permitting notes: Both phosphoric acid plants ("A" and "B" Plant), were modified after October 22, 1974 and are subject to the requirements of Rule 62-296.403, F.A.C. and 40 CFR 63, Subpart AA.}

Essential Potential to Emit (PTE) Parameters

C.1.a Permitted Capacity. The process input rates corresponds to the "equivalent P_2O_5 feed". The following maximum daily average rates shall not be exceeded:

E.U. ID No.	Plant Name	Maximum Process Input Rate
004	"A" PAP	70.8 tons/hour of 100% P_2O_5 (daily average)
		1,699 tons/day of 100% P_2O_5
		620,208 tons per any consecutive 12 month of 100% P_2O_5
009	"B" PAP	105.4 tons/hour of 100% P_2O_5 (daily average)
		2,530 tons/day of 100% P_2O_5
		923,304 tons per any consecutive 12 month of 100% P_2O_5

The permitted process input rate for each emissions unit shall be the rate during the most recently accepted compliance test plus 10%; not to exceed the permitted maximum process input rate (tons/hour 100% rock P_2O_5) of the emissions unit.

[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]

*{See specific conditions **C.13** for NESHAP requirements for monitoring and recordkeeping of the equivalent P_2O_5 feed rate.}*

C.1.b. Restricted Operation

a. Each plant is allowed to operate continuously, i.e., 8760 hours/year.

b. 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.

c. When the scrubbing system in the "B" PAP is not operating, the hours of transferring phosphoric acid to and from storage tanks and operation of evaporation process in the "B" 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.]

Emission Limitations and Standards

C.2. Total fluorides (F) emissions shall not exceed any of the following limits:

E.U. ID No.	Plant Name	Maximum Total Fluorides (F) Emissions
004	"A" PAP	0.012 pound/ton of "equivalent P_2O_5 feed"
		0.85 pounds/hour
		3.7 tons/year
009	"B" PAP	0.012 pound/ton of "equivalent P_2O_5 feed"
		1.26 pounds/hour
		5.5 tons/year
"equivalent P_2O_5 feed" means the quantity of phosphorus, expressed as phosphorus pentoxide, fed to the process as rock P_2O_5.		

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

{Permitting Note: The above limits are more stringent than those specified in Rule 62-296.403, F.A.C.; 40 CFR 60 Subpart T; and 40 CFR 63, Subpart AA}

C.3. The Permittee shall determine compliance with the total fluorides emissions rates in Specific Condition **C.2.** using the calculations and procedures specific in 40 CFR 63.606(c))
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.606(c)]

Excess Emissions

C.4. Excess Emissions Requirements. See requirements for "Excess Emissions" contained in Subsection L, Common Conditions.
[Rule 62-210.700, F.A.C.]

Monitoring of Operations

C.5. The Permittee shall install calibrate, maintain, and operate a monitoring system which can be used to determine and permanently record the mass flow of the phosphorus-bearing feed to the process. The monitoring system shall have an accuracy of ±5 % over its operating range.
[Rule 62-204.800, F.A.C.; 40 CFR 63.605(a)]

C.6. No phosphoric acid process water evaporative cooling towers shall be operated at this facility. CF operates only fresh water cooling towers.
[Rule 62-4.070(3), F.A.C.]

C.7. The permittee shall maintain, calibrate and operate the following monitoring systems for each scrubber in the process scrubbing system:

a. **Pressure Drop.** A monitoring system which continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 % over its operating range.

b. **Scrubbing Liquid Flow Rate.** A monitoring system which continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 % over its operating range.

[Rule 62-204.800(11), F.A.C.; 40CFR 63.605(c)(1) & (2)]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

C.8. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
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 40 CFR 60, Appendix A, and 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 62-297.401, F.A.C.; 40 CFR 63.606(b) (Subpart AA)]

C.9. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

C.10. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each emissions unit shall be tested to demonstrate compliance with the emissions standards for Fluoride. [Rule 62-297.310(7), F.A.C.]

Recordkeeping and Reporting Requirements

C.11. Test Report Records. A summary of the following process data shall be included in any compliance test report:
a. the process input rate in tons/hour and tons/day expressed as 100% rock P_2O_5
b. the start and end time for the rate determination.
[Rule 62-4.070(3), F.A.C.; Construction Permits 0570005-008-AC, 0570005-009-AC and 0570005-44-AC]

C.12. Daily Records. To document compliance with the specific conditions C.1., the permittee shall maintain daily records of the following information:
a. The Facility ID (0570005) and Emission Unit ID Numbers.
b. The date.
c. For each plant:
   1) The hours of operation,
   2) The equivalent P_2O_5 feed to the plant in tons/day,
   3) The average equivalent P_2O_5 feed rate to the plant in tons/hr (where the average rate shall be based on the daily equivalent P_2O_5 feed to the plant and the actual hours of operation for the day).
d. The hours of operation of phosphoric acid transfer and the evaporation process in each of the "A" and "B" PAPs when the scrubbing system in each PAP is not operating.

Equivalent P_2O_5 feed" shall be determined according to the procedure specified in 40 CFR 63.605(b).

[Rules 62-4.070(3) and 62-204.800(8), F.A.C.; Plant A - 40 CFR 63, Subpart AA]

C.13. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate of the phosphorus bearing feed using a monitoring system for measuring mass flowrate which meets the requirements of 40 CFR 63.605(a) and using the calculation method in 40 CFR 63.606(c)(3). [Rule 62-204.800(11), F.A.C., 40 CFR 63.605(b)(1)]

C.14. The Permittee shall maintain daily averages of the pressure drop across each scrubber and of the flow rate of the scrubbing liquid to each scrubber within the allowable ranges established pursuant to 40 CFR 63.605(d)(1) or (2).
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.604]

C.15. The owner or operator of an affected source shall comply with the reporting requirements for Performance Test Reports, Excess Emissions Reports and Summary Reports specified in 40 CFR 63.627. [Rule 62-204.800(11), F.A.C.; 40 CFR 63.607]

Other Requirements

C.16. Federal Rule 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.

{Permitting Note: See "Appendix NESHAP - 40 CFR 63 Subpart AA" and "Appendix NESHAP - 40 CFR 63, Subpart A"}

[Rules 62-213.440 and 62-204.800, F.A.C.; 40 CFR 63 Subpart A and 40 CFR 63 Subpart AA]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-010	"A" DAP/MAP Plant

This plant produces granulated ammonium phosphate fertilizer products DAP and MAP. This plant includes a reactor, granulator, dryer, product cooler, mills, and screens. The dryer is fired with natural gas or No. 5 fuel oil, or a better grade, i.e., No. 2, 3, or 4 (back-up); at a maximum heat input rate of 28.5 MMBtu/hr. The gas streams from the plant's processes (i.e., reactor/granulator process, process dryer, product dust collection system and process product cooler) pass through a series of scrubbers before discharging into a shared abatement scrubber. The abatement scrubber discharges to the atmosphere and uses water as the scrubbing liquid to control the fluoride concentration in the discharge gas stream. Scrubber system configurations for each process are described in the tables below.

Reactor and Granulator Gas Stream Pollution Control Equipment:

Stage I – Venturi Scrubber	Venturi Scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage II - Primary Scrubber	Ducon Envir. Tech. Series 435X-RL approximately 9' O.D. 27' long scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage III - Fume Downcomer	Fume Downcomer which consists of duct work with fresh water sprays. The water is from the abatement scrubber.
Abatement Scrubber*	Ducon Envir. Tech. Size approximately 15' x 28' scrubber with fresh water as the scrubbing liquid.

Dryer Gas Stream & Mills and Screens Dust Collection Pollution Control Equipment:

Dust Cyclones (Dryer/Mills/ Screens)	Fly Ash Arrestor Corp. – approximately 59 3/8" dia. each. (4 cyclones)
Stage I – Venturi Scrubber	Venturi Scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage II - Primary Dryer Scrubber	Ducon Envir. Tech. approximately 11' O.D. x 30' scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage III - Dryer Downcomer	Fume Downcomer which consists of duct work with fresh water sprays. The water is from the abatement scrubber.
Abatement Scrubber*	(See previous abatement scrubber description)

Product Cooler Gas Stream Pollution Control Equipment:

Dust Cyclones	Fly Ash Arrestor Corp. – approximately 65" dia. each. (4 cyclones)
Abatement Scrubber*	(See previous abatement scrubber description)

Note: In the previous operation permit (0570005-032-AV), the product cooler pollution control equipment included a product cooler down-comer in the list of control equipment; however, Construction Permit 0570005-

030-AC has changed the method of operation and the product cooler down-comer now operates as a duct with a duct sprayer.

* This plant has one common (shared) abatement scrubber which is the final control device for each process gas streams described in the tables above.

{Permitting Notes: (a) The addition of Urea Ammonium Nitrate (UAN) solution or an equivalent supplemental nitrogen source to the granulation plant/s during the production of Diammonium Phosphate (DAP) is to increase the nitrogen concentration of the DAP product and is an integral part of the process. (b) UAN typically contains 45% by weight ammonium nitrate and 35% by weight urea as an aqueous solution and does not increase emissions from the DAP granulator.}

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. This emissions unit is limited to the following maximum daily average P_2O_5 input rates:

Permitted Variable	DAP Mode	MAP Mode
P_2O_5 Input (tons/hour)	29.53	33.30

[Construction Permit 0570005-034-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.]

***{**Permitting Note: See Condition **D.16** regarding the NESHAP requirements for monitoring and recordkeeping of the equivalent P_2O_5 feed rate.}*

D.2. Hours of Operation. The plant is allowed to operate continuously, i.e., 8760 hours/year.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

D.3. Authorized Fuels. To control sulfur dioxide emissions from the granulation plant's product dryer, natural gas shall be fired as the primary fuel. No. 5 fuel oil or better grade fuel oil (i.e., No. 2, 3 or 4) may be fired as a back-up fuel.
[Construction Permit 0570005-034-AC; Rules 62-4-070(1)&(3) and 62-210.200 (PTE), F.A.C.]

D.4. Maximim Heat Input Rate. The maximum heat input rate to the granulation plant's product dryer is 28.5 MMBTU/hr., based on a daily average.
[Construction Permit 0570005-034-AC; Rules 62-4-070(1)&(3) and 62-210.200 (PTE), F.A.C.]

Emission Limitations and Standards

D.5. Particulate Matter Emissions Standards. The particulate emissions shall not exceed the following emissions standards:
a. 13.0 lbs./hr.
b. 56.9 tons/yr.
[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.]

D.6. Fluorides Emissions Standards. This plant shall not exceed the maximum allowable total fluorides emission rate of 0.06 lbs./ton of P_2O_5 input.

{Permitting note: While operating in DAP Mode at the maximum permitted capacity of 29.53 tons/hr. of P_2O_5 input, the fluoride emission rate is equivalent to 1.77 lbs./hr. and 7.76 tons/yr. While operating in MAP Mode at the maximum permitted capacity of 33.30 tons/hr. of P_2O_5 input, the fluoride emission rate is equivalent to 2.00 lbs./hr. and 8.75 tons/yr.}

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

D.7. The Permittee shall determine compliance with the applicable total fluorides emissions rate in specific condition **D.6.** 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)]

Excess Emissions

D.8. Excess Emissions Requirements. See requirements for "Excess Emissions" contained in Subsection L, Common Conditions.
[Rule 62-210.700, F.A.C.]

Monitoring of Operations

D.9. The Permittee shall comply with the attached Alternative Monitoring Plan, Appendix AMP, **or** with the monitoring requirements of 40 CFR 63.625(f). When complying with the AMP, the Permittee shall maintain daily averages (of the abatement scrubber liquid water flow and pH; and water flow to the downcomer header) within the allowable ranges established pursuant to the AMP.

{Permitting Note: See "Appendix AMP, Alternative Monitoring Plan."}

[Rule 62-204.800(11), F.A.C.; 40 CFR 63.624 and 63.625(f)]

Test Methods and Procedures

***{**Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*

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

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions (All PM is assumed to be PM_{10}.)
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 40 CFR 60, Appendix A, and 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 62-297.401, F.A.C.; 40 CFR 63.626(b)]

D.11. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. This emissions unit shall be tested at the maximum permitted P_2O_5 input rate (29.53 TPH DAP or 33.30 TPH of MAP).

[Rules 62.070(3) and 62-297.310(2), F.A.C.]

D.12. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), this emissions unit shall be tested to demonstrate compliance with the emissions standards for particulate matter and fluoride.
[Rule 62-297.310(7), F.A.C.; 40 CFR 63.626(a)(1)]

D.13. Additional Compliance Tests Required. This emissions unit shall be re-tested to demonstrate compliance with the emissions standards for particulates matter and fluoride within thirty days of:

a. a change in production mode (e.g., DAP to MAP or MAP to DAP), and/or

b. upon exceeding the 400th hour during any federal fiscal year when switching from natural gas to No. 5 fuel oil (or a better grade, i.e., No. 2, 3, or 4).

More than one test per any federal fiscal year is not required for any production mode change or fuel switching condition.

[Rules 62.070(3) and 62-297.310(7)(a)5, F.A.C.]

Recordkeeping and Reporting Requirements

D.14. Test Report Records. 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.
d. A copy of the logs and/or charts for the operating parameters required in the Daily Records (Specific Condition No. D.15).

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.]

{Permitting Note: See the applicable monitoring, reporting, recordkeeping, and excess emissions reporting requirements of 40 CFR 63, Subpart BB and 40 CFR 63, Subpart A}

D.15. Daily Records. To provide reasonable assurance of continuous compliance with Conditions **D.1, D.2, D.3** and **D.4**, the Permittee shall maintain a daily log. The log at a minimum shall include the following:
a. Date
b. Total operating hours.

c. At least once every 12 hours record the product mode (DAP or MAP) and the average P_2O_5 input rate in tons/hr.
d. An area on the log shall indicate the P_2O_5 input rate (plus 10%, but not exceeding 29.53 for DAP or 33.30 for MAP) at which the last compliance test was conducted.
e. Each type and quantity of fuel used.
f. The daily average MMBTU/hr. heat input rate to the dryer.
g. After switching to fuel oil to fire the dryer following a compliance test conducted using natural gas, record the hours the dryer was fired with fuel oil and the cumulative total time of fuel oil use to determine when the 400th hour testing requirement is triggered.

[Rule 62-4.070(3), F.A.C.]

D.16. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate of phosphorus bearing feed using a monitoring system for measuring mass flow rate which meets the requirements of 40 CFR 63.625(a)and then by proceeding according to specific condition 40 CFR 63.626(c)(3).
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.625(b)]

D.17. The owner or operator of an affected source shall comply with the reporting requirements for Performance Test Reports, Excess Emissions Reports and Summary Reports specified in 40 CFR 63.627.
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.627]

<u>Other Requirements</u>

D.18. <u>Supplemental Nitrogen Sources</u>: Addition of a urea/ammonium nitrate solution (UAN), or an equivalent supplemental nitrogen source approved by the Department of Environmental Protection, to DAP is allowed under the following condition:

> UAN shall be added to the granulator 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 and TV Renewal Application received 8/30/2006]

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

D.19. <u>Federal Rule Requirements</u>. This emissions unit is also 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.

{Permitting Note: See "Appendix NESHAP - 40 CFR 63 Subpart BB".}

[Rules 62-213.440 and 62-204.800(11), F.A.C.; 40 CFR 63, Subpart A and 40 CFR 63, Subpart BB]

D.20. The requirements of 40 CFR 63, Subpart BB, apply to the following emission points which are components of a DAP or MAP process line: reactors, granulators, dryers, coolers, screens, and mills.
[Rule 62-204.800(11), F.A.C.; and 40 CFR 63.620(b)(1)]

Subsection E. Emissions Units 011, 012 & 013

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-011	"Z" DAP/MAP Plant
-012	"X" DAP/MAP Plant
-013	"Y" DAP/MAP Plant

This X, Y and Z DAP/MAP Plant produces granulated ammonium phosphate fertilizer products DAP and MAP. Each of the three granulation plants consist of a reactor, granulator, dryer, aging belt, product cooler, mills, and screens. The dryers are fired with natural gas or No. 5 fuel oil or lower fuel oil (back-up). In each of the three granulation plants, the gas streams from the plant's processes (i.e., reactor/granulator process, process dryer, product dust collection system and process product cooler) pass through a series of scrubbers before discharging into a shared abatement scrubber. Each plant's abatement scrubber uses water as the scrubbing liquid to control the fluoride concentration in the discharge gas stream. Scrubber system configurations for each process are described in the tables below.

Reactor, Granulator, and Aging Belt Gas Stream Pollution Control Equipment:

Stage I - Venturi Scrubber	Venturi Scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage II - Primary Scrubber	Ducon Envir. Tech. Series 550, approximately 9'-9" O.D., 36'-10½" high scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage III - Secondary Scrubber	Ducon Envir. Tech. Series 550, approximately 9'-9" O.D., 35'-4½" high scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Abatement Scrubber*	Ducon Envir. Tech. Size approximately 15' x 35' scrubber with fresh water as the scrubbing liquid

Dryer Gas Stream Pollution Control Equipment:

Dust Cyclones	Ducon Envir. Tech. 810/175 Type VM (4 cyclones)
Stage I – Venturi Scrubber	Venturi Scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage II – Primary Scrubber	Ducon Envir. Tech. Series 555, approximately 10'-2" O.D., 38'-4½" high scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage III – Secondary Scrubber	Ducon Envir. Tech. Series 555, approximately 10'-2" O.D., 36'-10½" high scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Abatement Scrubber*	(See previous abatement scrubber description)

Mills and Screens Pollution Control Equipment:

Dust Cyclones	Ducon Envir. Tech. 810/175 Type VM (2 cyclones)
Stage I - Venturi Scrubber	Venturi Scrubber with partially-neutralized phosphoric acid as the scrubbing liquid.
Stage II - Primary Scrubber	Ducon Envir. Tech., Series 535, approximately 8'-8" O.D. x 34'-3" high with phosphoric acid as the scrubbing liquid. (No. 2)
Abatement Scrubber*	(See previous abatement scrubber description)

Product Cooler Pollution Control Equipment:

Dust Cyclones	Ducon Envir. Tech. 810/175 Type VM (2 cyclones)
Abatement Scrubber*	(See previous abatement scrubber description)

Note: In the previous operation permit (0570005-032-AV), the product cooler pollution control equipment included a secondary cooler scrubber in the list of control equipment; however, Construction Permit 0570005-030-AC has changed the method of operation and the secondary cooler scrubber now operates as a duct with a duct sprayer.

*Each plant has one common (shared) abatement scrubber which is the final control device for each process gas streams described in the tables above.

{Permitting Note: (a) The addition of Urea Ammonium Nitrate (UAN) solution or an equivalent supplemental nitrogen source to the granulation plant/s during the production of Diammonium Phosphate (DAP) is to increase the nitrogen concentration of the DAP product and is an integral part of the process.
(b) UAN typically contains 45% by weight ammonium nitrate and 35% by weight urea as an aqueous solution and does not increase emissions from the DAP granulator.}

{Permitting notes: These emissions units are regulated under Best Available Control Technology (BACT) Determination, dated July 6, 1989; Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards; Rule 62-296.403, F.A.C.; and 40 CFR 63, Subparts BB and A.}

The following conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

E.1. 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
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

[Construction Permits 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.]

*{Permitting Note: See Condition **E.20** regarding the NESHAP requirements for monitoring and recordkeeping of the equivalent P_2O_5 feed rate.}*

E.2. Hours of Operation. These plants are allowed to operate continuously, i.e., 8760 hours/year.
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C. and Construction Permit 0570005-044-AC]

E.3. Authorized Fuels. To control sulfur dioxide emissions from the X, Y and Z granulation plant product dryers, natural gas shall be fired as the primary fuel. No. 5 fuel oil or better grade fuel oil (i.e., No. 2, 3 or 4) may be fired as a back-up fuel.
[Construction Permits 0570005-004-AC and 0570005-034-AC; Rules 62-4-070(1)&(3) and 62-210.200 (PTE), F.A.C.]

E.4. Maximim Heat Input Rate. The maximum heat input rate to the X, Y and Z granulation plant product dryers shall not exceed the following:

E.U. ID. No.	Brief Description	**Maximum Heat Input** (MMBtu/hr)
011	"Z" DAP/MAP Plant	12.0
012	"X" DAP/MAP Plant	49.7 (prior to burner replacement project)
		12.0 (after burner replacement project)
013	"Y" DAP/MAP Plant	12.0

{Permitting Note: Construction Permit 0570005-038-AC was issued for the replacement of the burners in the X, Y & Z DAP/MAP Plants. At the time this permit was written, the burners in the Y & Z DAP/MAP Plants had been replaced however, the burners in the "X" DAP/MAP Plant had not been replaced. This permit therefore include a compliance plan for the "X" DAP/MAP Plant and maximum heat input limits corresponding to operations prior to and after completion of burner replacement project for the "X" DAP/MAP Plant. Please see Appendix CP-1 for compliance details.}

[Construction Permits 0570005-038-AC; Rules 62-4-070(1)&(3) and 62-210.200 (PTE), F.A.C.]

Emission Limitations and Standards

E.5. Fluorides Emissions Standards:

a. The X plant 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 AC29-210979 and Rule 62-212.300, F.A.C. and 40 CFR 63.622(b)]

b. The Y plant 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)]

c. The Z plant 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)]

E.6. The Permittee shall determine compliance with the applicable total fluorides emissions rate in specific condition **E.5.** 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)]

E.7. Particulate Matter Emissions Standards:

a. The X plant 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.]

b. The Y plant 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.]

c. The Z plant 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.]

Excess Emissions

E.8. Excess Emissions Requirements. See requirements for "Excess Emissions" contained in Subsection L, Common Conditions.
[Rule 62-210.700, F.A.C.]

Monitoring of Operations

E.9. The Permittee shall comply with the attached Alternative Monitoring Plan, Appendix AMP, **or** with the monitoring requirements of 40 CFR 63.625(f). When complying with the AMP, the Permittee shall maintain daily averages (of the abatement scrubber liquid water flow and pH) within the allowable ranges established pursuant to the AMP.

{Permitting Note: See "Appendix AMP, Alternative Monitoring Plan."}

[Rule 62-204.800(11), F.A.C.; 40 CFR 63.624 and 63.625(f)]

E.10. When in compliance with all of the requirements of 40 CFR 63, Subpart BB, the X, Y and Z Plants are exempted from the requirements of 40 CFR 60, Subpart V.
[Rule 62-204.800(11), F.A.C.; and 40 CFR 63.631]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

E.11. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions (All PM is assumed to be PM_{10}.)
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 40 CFR 60, Appendix A, and 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 62-297.401, F.A.C.; 40 CFR 63.626(b) (Subpart BB)]

E.12. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. Each emissions unit shall be tested based on its maximum permitted P_2O_5 input rate.

[Rules 62.070(3) and 62-297.310(2), F.A.C.]

E.13. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), Emissions Units Nos. 012, 013 and 011 ("X", "Y" and "Z" Plants) shall be tested to demonstrate compliance with the emissions standards for particulates matter and fluoride.
[Rule 62-297.310(7), F.A.C.; 40 CFR 63.626(a)(1)(Subpart BB)]

E.14. Additional Compliance Tests Required. Emissions Units Nos. 012, 013 and 011 ("X", "Y" and "Z" Trains) shall be re-tested to demonstrate compliance with the emissions standards for particulates matter and fluoride within thirty days of:

a. a change in production mode (e.g., DAP to MAP or MAP to DAP), and/or

b. upon exceeding the 400th hour during any federal fiscal year when switching from natural gas to No. 5 fuel oil (or a better grade, i.e., No. 2, 3, or 4).

More than one test per any federal fiscal year is not required for any production mode change or fuel switching condition.

[Rules 62.070(3) and 62-297.310(7)(a)5, F.A.C.]

Recordkeeping and Reporting Requirements

E.15. Test Report Records. 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.
d. Copies of records which documents the sulfur content of the fuel oil from the vendor immediately preceding the compliance tests.
e. A copy of the logs and/or charts for the operating parameters required in the Daily Records (Specific Condition No. E.16).

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 0570005-038-AC]

{Permit Note: See the applicable monitoring, reporting, recordkeeping, and excess emissions reporting requirements of 40 CFR 63, Subpart BB and 40 CFR 63, Subpart A.}

E.16. Daily Records. To provide reasonable assurance of continuous compliance with Conditions **E.1., E.2., E.3.** and **E.4.**, the Permittee shall maintain a daily log for each train. The log at a minimum shall include the following:
a. The Facility ID (0570005) and Emission Unit ID Number.
b. The date.
c. The total operating hours.
d. At least once every 12 hours record:
   1) the product mode (DAP or MAP) and
   2) the average P_2O_5 input rate in tons/hr.
e. An area on the log shall indicate the current allowable P_2O_5 input rate (the rate at which the last compliance test was conducted plus 10%, or the P_2O_5 input rate limit from Condition E.1., whichever rate is lower).
f. Each type and quantity of fuel used.
g. The daily average MMBTU/hr. heat input rate to the dryer.
h. After switching to fuel oil to fire the dryer following a compliance test conducted using natural gas, record:
   1) the hours the dryer was fired with fuel oil for the day and
   2) the cumulative total hours of fuel oil use to determine when the 400th hour testing requirement is triggered.

[Construction Permit 0570005-044-AC; Rule 62-4.070(3), F.A.C.]

E.17. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate of phosphorus-bearing feed using a monitoring system for measuring mass flow rate which meets the requirements of 40 CFR 63.625(a) and then by proceeding according to 40 CFR 63.626(c)(3).
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.625(b)]

E.18. The owner or operator of an affected source shall comply with the reporting requirements specified in 40 CFR 63.627.
[Rule 62-204.800(11), F.A.C.; 40 CFR 63.627]

Other Requirements

E.19. Supplemental Nitrogen Sources: Addition of a urea/ammonium nitrate solution (UAN), or an equivalent supplemental nitrogen source approved by the Department of Environmental Protection, to DAP is allowed under the following condition:

UAN shall be added to the granulator 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 and TV Renewal Application received 8/30/2006]

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

E.20. Federal Rule Requirements. These emissions units are also 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 in 40 CFR 63, Subpart A - General Provisions.

{Permitting Note: See "Appendix NESHAP - 40 CFR 63 Subpart BB".}

[Rule 62-213.440, 62-204.800(8) and 62-204.800(11), F.A.C.; 40 CFR 63, Subpart BB]

E.21. The requirements of 40 CFR 63, Subpart BB, apply to the following emission points which are components of a DAP or MAP process line: reactors, granulators, dryers, coolers, screens, and mills. [Rule 62-204.800(11), F.A.C.; and 40 CFR 63.620(b)(1)]

Subsection F. Emissions Unit 014

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-014	"A & B" Storage Buildings

This subsection applies to the "A" and "B" Storage Buildings, as described below.

For the operation of the "A" and "B" DAP/MAP storage buildings. Coating oils are applied to the MAP/DAP to prevent fugitive emissions of particulate matter.

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

F.1. Permitted Capacity. The maximum material input to the storage buildings shall not exceed 382 tons/hr on a daily average basis and 3,346,320 tons/year, the maximum production rates of MAP/DAP from the "X", "Y", "Z", and "A" trains.
[Rules 62-4.160(2) and 62-210.200(Definitions – Potential to Emit (PTE)), F.A.C.; and Construction Permit 0570005-020-AC]

F.2. Coating oils shall be applied to the MAP/DAP to prevent fugitive emissions of particulate matter.
[Rules 62-4.070(3) and 62.296.700(2), F.A.C.; Applicant request; and Construction Permit 0570005-020-AC]

Recordkeeping and Reporting Requirements

F.3. Daily Records. In order to document compliance with the rate limitations of **F.1**, the Permittee shall maintain the following daily records:

a. The Facility ID (0570005) and Emission Unit ID Number.
b. The date.
c. The amount of material transferred to the storage buildings in tons.
d. The total hours of process operations.
e. The daily average rate of material transferred to the storage building in tons/hr (where daily average = tons per day/hours of operation).

[Rule 62-4.070(3), F.A.C.]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-015	"A" Shipping Baghouse
-018	"B" Shipping Baghouse
-019	"B" Truck Loading
-020	"B" Railcar Loading

This subsection applies to the "A" & "B" Shipping units, as described below.

For the operation of the "A" & "B" Shipping units consisting of sizing, screening, and conveying systems for transferring DAP/MAP from storage buildings "A" and "B" to the truck and railcar loading operations associated with these buildings.

Particulate matter emissions from the transfer points and emissions from the sizing and screening are controlled by approximately 10,000 acfm Mikro-Pulsaire Model 1F2-48 baghouse dust collectors (2) (one on each shipping unit). Emissions from the truck and railcar loading operations are minimized by the use of dust suppressant.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

G.1. Permitted Capacity.
a. The maximum loading rate from "A" Shipping Unit shall not exceed 250 tons/hour (daily average).
b. The maximum loading rate from "B" Shipping Unit shall not exceed 500 tons/hour (daily average).

[Construction Permit 0570005-034-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.]

G.2. Hours of Operation. These emissions units are allowed to operate continuously, i.e., 8760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

G.3. Particulate Matter Emissions Standards. Particulate matter emissions from the "A" and "B" Shipping baghouse exhausts shall each not exceed 5 pounds per hour.
[As requested by Permittee, and Rule 62-296.700(2)(b), F.A.C.]

G.4. Due to the expense and complexity of conducting a stack test on a minor source of particulate matter, and because these emission units are equipped with baghouse dust control devices, the Department, in accordance with the authority granted under Rule 62-297.620(4), F.A.C., hereby establishes visible emission limitations not to exceed an opacity of 5% for the "A" and "B" Shipping unit baghouse exhausts in lieu of particulate matter stack tests. Each baghouse control system shall be designed and maintained to achieve an outlet grain loading of no more than 0.02 grains per actual cubic feet (gr./acf) for a nominal flow rate of approximately 10,000 actual cubic feet per minute (acfm). New and replacement bags shall meet these specifications based on vendor information. The permittee shall maintain records of the design specifications for the bags. No particulate matter emissions tests are required.

{Permitting Note: Based on the baghouse design specifications, potential PM10 emissions from each baghouse would be 1.71 lb/hr and 7.51 tons per year.}

[Rules 62-297.620(4) and 62-296.340(5)(c) (escape BART), F.A.C.; Construction Permits 0570005-021-AC/PSD-FL-355 and 0570005-034-AC]

G.5. Visible Emissions Indicator – Truck & Railcar Loading Areas. As an indicator that the dust control measures being implemented are adequate, visible emissions from the truck and railcar loading areas should not exceed 5% opacity. If this level is exceeded then the Department or EPCHC may require that additional dust control measures be implemented.
[Rule 62-296.320(4)(c)2., F.A.C., Section 1-3.52, Rules of HCEPC]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

G.6. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in 40 CFR 60, Appendix A, and 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.
[Rules 62-297.401(9)(c), and 62-297.310(4)(a)2, F.A.C.]

G.7. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

G.8. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), the following shall be tested to demonstrate compliance with the emissions standards for visible emissions:
a. The baghouse exhaust associated with the "A" Shipping System,
b. The baghouse exhaust, truck loading operation and railcar loading operation associated with the "B" Shipping System.
[Rule 62-297.310, F.A.C.; Construction Permit 0570005-034-AC]

G.9. Testing may be conducted while handling DAP or MAP. All test reports shall include a statement of the type of product being handled during the test.
[Rule 62-4.070(3), F.A.C.]

Monitoring of Operations

G.10. For each baghouse, the pressure drop across the baghouse shall be monitored during each compliance test, and a summary of this data shall be included in each emissions test report.
[Rule 62-297.310(8), F.A.C.]

Recordkeeping and Reporting Requirements

G.11. The Permittee shall create and keep a log of the baghouse operating parameters for each baghouse. The record log shall contain, at a minimum, one fifteen-second visual observation per shift by a plant operator, the date and time of the observation, and the person responsible for performing the observation. The observer is not required to be certified as this is not an observation using EPA Method 9. [Rule 62-4.070(3), F.A.C.]

G.12. Daily Records. To document compliance with specific condition **G.1**, the Permittee shall maintain separate daily records on the "A" and "B" Shipping Systems as follows:

a. The Facility ID (0570005) and Emission Unit ID Number.
b. The date.
c. The total hours or operation.
d. The quantity (tons) of material loaded out on the "A" and "B" Shipping Systems.
e. For the "B" Shipping System, the records shall be further broken down into quantity of material loaded into trucks and into railcars.
f. The daily average rate of material loaded out on each of the "A" and "B" Shipping Systems in tons/hr (where daily average rate = tons per day/hours of operation).

[Rules 62-213.440(1)(b)2.b. and 62-4.070(3), F.A.C.]

Other Requirements

G.13. The Permittee shall not circumvent any air pollution control device or allow the emissions of air pollutants without the applicable air pollution control device operating properly. The emission control equipment (i.e. dust collection systems and baghouse control devices) shall be maintained in good repair to perform adequately the function for which they were intended. Maintenance shall include, but not be limited to, periodic inspections and replacement or repair of faulty equipment when necessary. [Rules 62-4.070(3) and 62-210.650, F.A.C]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-022	2600 Ton Storage Tank
-023	Truck Pit A
-024	Truck Pit B
-033	5000 Ton Storage Tank

This subsection applies to the molten sulfur storage and handling system, as described below.

For the operation of the molten sulfur storage and handling system consisting of;
- one (1) 5,000 ton capacity molten sulfur storage tank (has 5 exhaust vents);
- one (1) 2,600 ton capacity molten sulfur storage tank;
- two (2) 679 ton capacity truck unloading pits (designated as Truck Pit A and Truck Pit B;
- one (1) railcar unloading pit.

Molten sulfur delivered by trucks is unloaded to one of the truck unloading pits and can be transferred to the molten sulfur storage tanks or transferred to any one of the sulfuric acid plants. Molten sulfur delivered by railcar is unloaded to the railcar sulfur unloading pit at a rate of approximately 100 tons (one railcar) per hour. Molten sulfur is transferred from the sulfur tanks to the truck sulfur unloading pits and then to any one of the sulfuric acid plants. Emissions from each storage vessel are vented uncontrolled through a round stack with a rain cap.

~~*{Permitting note: This emissions unit is regulated under Rule 62-296.411, F.A.C., Sulfur Storage and Handling Facilities.}*~~

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

H.1. Permitted Capacity. The molten sulfur throughput (defined as sulfur unloaded) for the molten sulfur storage and handling facility shall not exceed 8,824 tons per day and 1,051,677 tons during any consecutive 12-month period.
[Construction Permit 0570005-026-AC/PSD-FL-339B, Rules 62-4.160(2) and 62-210.200(Definitions – Potential to Emit (PTE)), F.A.C.]

H.2. Hours of Operation. These emissions units are allowed to operate continuously, i.e., 8760 hours/year.
[Rule 62-210.200(PTE), F.A.C.]

~~**Emission Limitations and Standards**~~

~~*{Permitting Note: The attached Table 1, Summary of Air Pollutant Standards, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*~~

~~**H.3.** Visible Emissions Standard. Visible emissions from any emission point (vent) in the molten sulfur storage and handling facility shall not exceed 10% opacity.~~
~~[Construction Permit AC29-187327]~~

~~Test Methods and Procedures~~

~~*{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}*~~

~~**H.4.** Test Methods. Required tests shall be performed in accordance with the following reference methods:~~

~~**Method**~~	~~**Description of Method and Comments**~~
~~9~~	~~Visual Determination of the Opacity of Emissions from Stationary Sources (The visible emissions test shall be a minimum of thirty (30) minutes in duration)~~

~~The above methods are described in 40 CFR 60, Appendix A, and 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 62-297.310(4)(a)2 and 62-297.401, F.A.C.]~~

~~**H.5.** Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.~~
~~[Rule 62-297.310, F.A.C.]~~

~~**H.6.** Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), each emission point of the molten sulfur storage and handling system shall be tested to demonstrate compliance with the visible emissions standards. Testing procedures shall be consistent with the requirements of Rule 62-297.310, F.A.C.~~
~~[Rule 62-297.310(7)(a)4, F.A.C.]~~

~~Fugitive Emission Control Requirements~~

~~**H.7.** The Permittee shall employ the following procedures to minimize emissions from the facility.~~

~~a. All molten sulfur transfer shall be through enclosed piping systems where feasible and practical. Contact surfaces between movable unloading arms and stationary pipes shall seat effectively around the entire circumference to minimize spillage. A shroud shall be used between the railcar unloading valve and the discharge to the transfer trench.~~
~~b. Maintain records of spills outside of containment areas and of collection and disposal of spilled sulfur.~~
~~c. All spilled molten sulfur shall be collected and properly disposed of whenever the containment area is filled to one-half its containment capacity, or monthly, whichever is more frequent. Spills of molten sulfur outside of a containment area, or where subject to vehicular traffic, shall be collected and disposed of as soon as possible, but no later than 24 hours after the spill occurs. Drip pans or the secondary containment shall be cleaned as needed to prevent exceedance of capacity, but at least weekly.~~
~~d. All vent surfaces shall be inspected monthly and cleaned as required to remove captured particles and prevent plugage.~~

~~[Rule 62-296.411(1), F.A.C.]~~

Recordkeeping and Reporting Requirements

~~**H.8.** Test Reports. The following information shall be shown on or submitted with all compliance test reports:~~

~~a. Identification of the source and emission point being tested;~~
~~b. Description of unloading/transfer operation taking place during testing (truck unloading, railcar unloading, etc.);~~
~~c. Estimated source unloading/transfer rate during test period.~~

~~[Rule 62-4.070(3), F.A.C.]~~

H.3. ~~**H.9.**~~Daily Records. To comply with the molten sulfur throughput limits in Specific Condition No. **H.1**, daily recordkeeping shall be maintained. The records shall be made available for inspection by the Department, EPCHC, or its designee, and shall contain, at a minimum, the following:

a. The date.

b. For each molten sulfur receiving (unloading) event:

1) The date and time,

2) The delivery vehicle type (truck or railcar), and

3) The quantity of molten sulfur unloaded (in tons).

c. The total quantity of molten sulfur received for the day (in tons).

d. The total quantity of molten sulfur received for the most recent month and consecutive 12-month period (in tons/yr).

[Construction Permit AC29-187327 and Rule 62-4.070(3), F.A.C.]

Subsection I. Emissions Unit 032

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-032	Phosphoric Acid Cleanup

The function of the Phosphoric Acid Cleanup Unit (EU 032) is to clarify phosphoric acid produced by the Phosphoric Acid Plants (PAPs). There are two parallel systems, one used to clarify approximately 26% phosphoric acid, and the other used to clarify approximately 40% phosphoric acid. The clean-up system involves mixing phosphoric acid with a flocculent to remove most of the organic material and gypsum. The mixture is then clarified and the cleaned acid is then sent to the storage or sent directly to the diammonium / monoammonium phosphate (DAP/MAP) plants. The solids from the clarifiers are sent back to the phosphoric acid plant.

For maintenance purpose only, acid transfer to/from the storage tanks and operation of the acid clarification process without the operation of the PACU scrubber may occur for up to 730 hours per year.

Fluoride emissions from this unit are controlled by fume duct sprays followed by a packed bed scrubber with "Kimre" packing or equivalent packing. The packed bed scrubber has a flow rate of approximately 35,000 ACFM.

{Permitting note: This emissions unit is regulated under Rule 62-296.403, F.A.C., Phosphate Processing.}

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

I.1. Permitted Capacity. The input rate to the clean-up system shall not exceed a daily average of 671 tons per hour of phosphoric acid (26% - 45% P_2O_5).
[Rules 62-4.160(2), 62-210.200(Definitions – Potential to Emit (PTE)), and 62-4,070(3), F.A.C.; and Construction Permits 0570005-006-AC and 0570005-028-AC]

I.2. Hours of Operation.

a. This emissions unit is permitted for continuous operation (i.e., 8760 hours/year).

b. The acid transfer to/from the storage tanks and operation of the acid clarification process, without the operation of the PACU scrubber, is limited to 730 hours in any consecutive 12 months period.

[Rules 62-4.160(2), 62-210.200(PTE) and 62-4,070(3), F.A.C.; and Construction Permits 0570005-006-AC and 0570005-028-AC]

Emission Limitations and Standards

I.3. Fluoride Emissions Standards. The maximum fluoride emissions from the clean-up system shall not exceed 0.28 lbs./hr (1.23 tons/yr.).
[Rule 62-296.403(2), F.A.C., and Construction Permit 0570005-006-AC]

Test Methods and Procedures

{Permitting Note: The attached Table 2, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

I.4. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	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	Determination of Total Fluoride Emissions from Stationary Sources – Specific Ion Electrode Method (without distillation)

The above methods are described in 40 CFR 60, Appendix A, and 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 62-297, F.A.C., and Construction Permits 0570005-006-AC and 0570005-028-AC]

I.5. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit.
[Rule 62-297.310, F.A.C.]

I.6. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for total fluorides.
[Rule 62-297.310(7)(a)4., F.A.C., and Construction Permits 0570005-006-AC and 0570005-028-AC]

Monitoring of Operations

I.7. This emissions unit is subject to the Compliance Assurance Monitoring requirements contained in the attached Appendix CAM.
[40 CFR 64 (CAM)]

Records And Reports

I.8. Recordkeeping - To document compliance with Specific Condition No. **L.1.**, the permittee shall maintain, at a minimum, the following records:

a. Daily Records:
   (1) The Facility Name, Facility ID No. (0570005), Emission Unit ID No. (E.U. 032) and Description.
   (2) The Date.
   (3) When the PACU is operating, but the PACU scrubber is shut down during periods of essential maintenance of the packed bed scrubber and the ducting system, record the hours of downtime of the PACU scrubber.
   (4) When the PACU is operating,
      (a) the total quantity of phosphoric acid input to the PACU system in tons, and
      (b) the total hours of process operations.

b. Monthly Records:
   Record the hours of downtime of the PACU scrubber in consecutive 12 months.

Daily records shall be completed within 3 business days. Monthly records shall be complete by end of the following month. The records required in this permit shall be maintained at the facility for a minimum of five years and made available to the HCEPC and the Department upon request.

[Rule 62-4.070(3), F.A.C., Construction Permit No. 0570005-006-AC and 0570005-028-AC]

Subsection J. Emissions Unit 100

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-100	Phosphogypsum Stack

This emission unit refers to the stack existing at 6/96, covered below.

The following conditions apply to the emissions unit listed above:

J.1. Federal Rule Requirements. The permittee shall comply with 40 CFR 61 Subparts A and R (National Emission Standards for Hazardous Air Pollutants - General Provisions; and National Emission Standards for Radon Emissions from Phosphogypsum Stacks).

{Permitting Note: See Appendix "NESHAP-40 CFR 61 Subpart A" and "Appendix NESHAP-40 CFR 61 Subpart".}

[40 CFR 61 Subpart A and 40 CFR 61 Subpart R]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
-102	Emergency Diesel Engines (Existing stationary RICE)

This emissions unit consists of the following Emergency Diesel Engines:

Description	Manufacturer	Model No.	Power (bhp)	Date of Construction
Main Substation Emergency Generator	Caterpillar	3409	599	1999
Emergency Deep Well No 1.	Cummins	NTA360CBCI	400	1980
Emergency ACU Generator	Onan	3500 MKII	160	1980
Emergency Generator B-Pad	Caterpillar	3306DI	305	1980

Federal Rule Requirements

K.1. 40 CFR 63, Subpart ZZZZ Requirements. The emergency diesel engines included in this emissions unit are subject to the applicable requirements contained in 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines and 40 CFR 63, Subpart A - General Provisions. The applicable requirements for each engine (based on category and HP rating) are shown in Appendix NESHAP - 40 CFR 63, Subpart ZZZZ - Summary of Requirements.

{Permitting Note: See "Appendix NESHAP-40 CFR 63, Subpart A" and "Appendix NESHAP-40 CFR 63, Subpart ZZZZ"}

[Rule 62-4.070(3), F.A.C.; 40 CFR 63 Subpart A and 40 CFR 63 Subpart ZZZZ]

Subsection L. Common Conditions

The specific conditions in this section apply to all regulated emissions units:

Excess Emissions
Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.

L.1. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit 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. (Sulfuric acid plants are authorized by the Department to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices to minimize emissions are followed, in accordance with Appendix B - *Best Operational Start-up Practices for Sulfuric Acid Plants.*)
[Rule 62-210.700(1), F.A.C.]

L.2. 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.
[Rule 62-210.700(4), F.A.C.]

L.3. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
[Rule 62-210.700(5), F.A.C.]

L.4. In case of excess emissions resulting from malfunctions, each owner or operator 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(6), F.A.C.]

SECTION IV. APPENDICES.

The Following Appendices Are Enforceable Parts of This Permit:

Appendix A, Glossary.
Appendix AMP, Alternative Monitoring Plan.
Appendix B, Best Operational Start-up Practices for Sulfuric Acid Plants.
Appendix BACT, 0570005-041-AV.
Appendix BACT, PSD-FL-339/0570005-019-AC.
Appendix BACT, PSD-FL-339B/0570005-026-AC.
Appendix BACT, PSD-FL-355/0570005-021-AC.
Appendix CAM, Compliance Assurance Monitoring Plan.
Appendix CP-1, Compliance Plan for 0570005-021-AC, 0570005-038-AC, 0570005-044-AC.
Appendix NESHAP - 40 CFR 61, Subpart A - General Provisions.
Appendix NESHAP - 40 CFR 61, Subpart R - NESHAP for Radon Emissions from Phosphogypsum Stacks.
Appendix NESHAP - 40 CFR 63, Subpart A - General Provisions.
Appendix NESHAP - 40 CFR 63, Subpart AA - NESHAP for Phosphoric Acid Manufacturing Plants.
Appendix NESHAP - 40 CFR 63, Subpart BB - NESHAP for Phosphate Fertilizer Production Plants.
Appendix NESHAP - 40 CFR 63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines.
Appendix NESHAP - 40 CFR 63, Subpart ZZZZ - Summary of Requirements
Appendix NSPS - 40 CFR 60, Subpart A - General Provisions.
Appendix NSPS - 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
Appendix NSPS - 40 CFR 60, Subpart H - Standards of Performance for Sulfuric Acid Plants.
Appendix RR, Facility-wide Reporting Requirements.
Appendix SAM, Sulfuric Acid Mist Emissions Prevention Plan.
Appendix TR, Facility-wide Testing Requirements.
Appendix TV, Title V General Conditions.
Appendix U, List of Unregulated Emissions Units and/or Activities.

REFERENCED ATTACHMENTS.

The Following Attachments Are Included for Applicant Convenience:

Figure 1, Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance (40 CFR 60, July, 1996).
Table H, Permit History.
Table 1, Summary of Air Pollutant Standards and Terms.
Table 2, Compliance Requirements.
Statement of Basis.