Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

DRAFT PERMIT

PERMITTEE

Mosaic Fertilizer, LLC
New Wales Facility
13830 Circa Crossing Drive
Lithia, FL 33547

Air Permit No. 1050059-074-AC
Permit Expires: 12/31/2014
New Wales Facility
Minor Air Construction Permit
Project Name: Replacement of GMAP Equipment Scrubber

Authorized Representative:
Mr. Ghani Baig, Environmental Manager

This is the final construction permit to replace the Equipment Scrubber in the granular monoammonium phosphate (GMAP) plant. The proposed work will be conducted at the Mosaic Fertilizer, LLC, New Wales Facility (Standard Classification No. 2874). The facility is located in Polk County at 3095 Highway 640, Mulberry, Florida. The UTM coordinates are Zone 17, 396.67 km East, and 3079.30 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

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

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

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

Executed in Hillsborough County, Florida

DRAFT

_____ _____

Robert C. Wong Effective Date
District Air Program Administrator
Southwest District

CERTIFICATE OF SERVICE

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

Ghani Baig, Mosaic Fertilizer, LLC (ghani.baig@mosaicco.com)
Rama Iyer, P.E., Mosaic Fertilizer, LLC (rama.iyer@mosaicco.com)

Clerk Stamp

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

DRAFT

_____ _____

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

This facility is a phosphate fertilizer manufacturing complex. The fertilizer complex processes phosphate rock into several different fertilizer products and animal feed ingredients. This is accomplished by reacting the phosphate rock with sulfuric acid to produce phosphoric acid and then converting the phosphoric acid to fertilizer and animal feed ingredient products. This facility consists of five double absorption sulfuric acid plants; three phosphoric acid plants; a phosphoric acid clarification and storage area; three diammonium phosphate (DAP) plants; a monoammonium phosphate (MAP) plant; a granular monoammonium phosphate (GMAP) plant; an animal feed ingredients (AFI) plant; a multifos production plant; a molten sulfur storage & handling system; a limestone storage silo/rock grinding operation; and a phosphogypsum stack.

Project Description and Affected Emissionss Unit

This construction permit is for the replacement of the existing venturi scrubber – cyclonic demister with a variable throat venturi scrubber with its associated cyclonic demister. This project will modify the following emissions unit:

Facility ID No. 1050059	
ID No.	Emissions Unit Description
078	Granular Monoammonium Phosphate (GMAP) Plant

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

FACILITY REGULATORY CLASSIFICATION

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

PERMIT HISTORY/AFFECTED PERMITS

Modifies Permit No. 1050059-030-AC.

SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS (DRAFT)

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

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

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

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District's Air Resources Management Section (see above mailing address and phone number).

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

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

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
   [Rule 62-4.080, F.A.C.]

6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emissions unit or facility.
   [Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Source Obligation (PSD Major facilities only):

   a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which

was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

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

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

   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years {change to "10 years" if project increases design capacity or the potential to emit a PSD pollutant} following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period {change to "10-year period" if project increases design capacity or potential to emit PSD pollutant} setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

      1) The name, address and telephone number of the owner or operator of the major stationary source;

      2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

      3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

      4) Any other information that the owner or operator wishes to include in the report.

   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   For this project, the Department requires the annual reporting of actual fluoride (F) and PM/PM_{10} emissions for the emissions unit EU 078.
   [Permit Application dated 04/23/2012; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

9. Annual Operating Report: On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.
   [Rule 62-210.370(3), F.A.C.]

10. Application for Title V Air Operation Permit: This permit authorizes construction of the permitted emissions unit(s) and initial operation to determine compliance with Department rules. A Title V air operation permit is required for continued operation of the permitted emissions unit(s). The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation or commencing operation as modified. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for a Title V air operation permit, the applicant shall submit the following:

    a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;

    b. a copy of the most recent compliance test report required by Specific Condition No. A.13. if not previously submitted; and,

    c. a copy of the most recent month of logs required by Specific Condition No. A.14.

    [Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.220, 62-296.700(6) and Chapter 62-213, F.A.C.]

A. EU No. 078 – Granular Monoammonium Phosphate (GMAP) Plant

This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
078	The Granular Monoammonium Phosphate (GMAP) Plant has a maximum production rate of 150 tons per hour of GMAP (75 TPH P_2O_5 feed). GMAP is made by reacting anhydrous ammonia and phosphoric acid in a covered reaction tank with the further addition of ammonia and acid in a granulator. The granulated product is then dried in a rotary drier. The dried product is further processed by screening, milling (oversized), and reprocessing (undersized). The properly sized product is conveyed to the storage building for eventual load out. The dryer has a maximum design heat rate input of 63.7 MMBtu/hr and is fired with natural gas or No. 6 fuel oil (2.50% sulfur max.). The maximum heat input rate used in GMAP production is 30 MMBtu/hr. The rate shall be controlled by the operator through instrumentation either manually or automatically. The emissions unit includes a reactor, granulator, product cooler and polishing screens. The granulator is 12′ diameter x 27′ foot long. It is fitted with an ammonia sparger to produce a drier GMAP product. Design air flow rate through the granulator is 26,000 acfm. <u>Air Pollution Control System</u> – Emissions from the dryer, product cooler and material handling equipment are directed to cyclones for product recovery. Emissions from the reactor, granulator, dryer cyclones and cooler cyclone are directed to the Main Scrubber System. The Main Scrubber System includes a venturi and dual cyclonic demisters, which are used to recover ammonia and to control particulate matter and fluoride emissions. The scrubbing medium is recirculated phosphoric acid. Remaining fluoride and particulate matter are further controlled by three impact sprays, an irrigated Kimre™ pad, and a Kimre™ demist pad. The scrubbing medium is recirculated fresh water. Emissions from various material handling equipment are directed to Equipment Scrubber System, consisting of a variable throat venturi scrubber with its associated cyclonic demister for control of particulate matter and fluoride emissions. The scrubbing medium is recirculated fresh water. The Main Scrubber System and the Equipment Scrubber System are ducted to a common stack for exhaust to atmosphere. <u>Product Transport, Storage, and Load out</u> – GMAP will be oiled and conveyed to a storage building via the product conveyor. Oiled GMAP is not expected to be a source of particulate matter emissions. As a result, use of storage building scrubber system is not required by this permit. GMAP will be stored in the northern portion of the existing product storage building and loaded into railcars or trucks by the existing load out system.

Granular MAP/DAP Emissions Sources & Associated Control Equipment

Process Emissions Source	Control Equipment
Reactor, Granulator, Dryer and Product Cooler	Main Scrubber System: Venturi, 2 Cyclonic Demisters, 3 Impact Sprays, Irrigated Kimre™ Pad and Kimre™ Demister Pad
Dryer Lump Breaker, Dryer Spillage Belt, Granulator Feed Elevator, Screens Feed Elevator, Recycle Conveyor, Chain Mills (4), Screens (4) – following Screens Feed Elevator, Product Elevator and Cooler Feed Conveyor	Equipment Scrubber System: Variable Throat Venturi Scrubber, and Cyclonic Demisters.
Polishing Screens (A & B) and Product Bin	Indirectly vented to Product Cooler
Product Conveyor	Covered Conveyor
Product Storage Building	Enclosed Building

Permtting Notes:

- The GMAP Plant is subject to 40 CFR 63, Subpart BB - National Emissions Standards for Hazardous Air Pollutants From Phosphate Fertilizer Plants.
- The GMAP Plant is subject to Rule 62-296.403(i), F.A.C. – Phosphate Processing

PERFORMANCE RESTRICTIONS

A.1. Federal Regulatory Requirements: This emissions unit is subject to 40 CFR 63, Subpart BB – National Emissions Standards for Hazardous Air Pollutants from Phosphate Fertilizer Plants, which is adopted by reference in Rule 62-204.800, F.A.C.
[Rule 62-204.800(11), F.A.C.]

A.2. Permitted Capacity: The P_2O_5 process input rate shall not exceed 75 tons/hr (daily average basis) and 675,000 tons per any consecutive 12-month period.
{Permitting note: See Appendix D, Condition 1, for Operation Rate during Testing requirements.}
[Rule 62-210.200(PTE), F.A.C.; Construction Permit 1050059-030-AC]

A.3. Production Capacity: The production rate shall not exceed 150 tons/hr (daily average basis) and 1,314,000 tons per any consecutive 12-month period.
[Rule 62-210.200(PTE), F.A.C.; Construction Permit 1050059-030-AC]

EMISSIONSS STANDARDS

A.4. Fluoride (F) Emissions Limit: Total fluoride emissions from the GMAP Plant shall not exceed the following:
a. 0.032 lb F/ton of P_2O_5 input.
b. 2.40 lbs./hr.
c. 10.5 tons/yr.
[Rule 62-210.200(PTE), F.A.C.; Construction Permit 1050059-030-AC and BACT Determination dated 07/27/2000]

A.5. PM/PM_{10} Emissions Limit: PM/PM_{10} emissions from the GMAP Plant shall not exceed the following:
a. 0.0645 lb PM/ton of product.
b. 9.68 lb/hr.
c. 42.4 tons/yr.
[Rule 62-210.200(PTE), F.A.C.; Construction Permit 1050059-030-AC]

TESTING REQUIREMENTS

A.6. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for fluoride (F) and PM/PM_{10}. The initial tests shall be conducted no later than 90 days after initial operation of the unit after the replacement of the equipment scrubber.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

A.7. Compliance Tests After Initial Testing: During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the emissions standards for fluoride (F).
[Rule 62-297.310, F.A.C.]
{Permitting Note: Since there is a reason to believe that fluoride emissions increase with increasing ambient temperature, if the testing is not conducted during May through October, additional testing may be required.}

A.8. Tests Prior to Permit Renewal: Within the 12-month period prior to but no later than 270 days prior to the expiration date of the facility's Title V Air Operation Permit, the emissions unit shall be tested to demonstrate compliance with the emissions standard for PM/PM_{10}.
[Rule 62-297.310(7), F.A.C.]

A.9. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

A.10. Test Method(s): Required tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
1-4	Traverse points, velocity and flow rate, gas analysis, and moisture content
5	Determination of particulate matter emissions from Stationary Sources
13A	Determination of Total Fluoride Emissions from Stationary Sources – SPADNS –Zirconium Lake Method – 40 CFR 60, Appendix A
13B	Determination of Total Fluoride Emissions from Stationary Sources – Specific Ion Electrode Method – 40 CFR 60, Appendix A

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 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

NOTIFICATION REQUIREMENTS

A.11. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

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

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

A.12. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the EU No. 078 after completing the modifications authorized by this permit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rule 62-4.070, F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS AND REPORTS

A.13. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. In addition, the report shall provide the following information for each test run:

- P_2O_5 input rate, Tons/hr (TPH);
- GMAP production rate, Tons/hr (TPH);
- Heat input rate (MMBtu/hr) and fuel type;
- Liquid flowrate (gpm) and pressure drop (inches of H_2O) for the venturi scrubbers and irrigated Kimre™ pad;
- Liquid flowrate (gpm) for the impact sprays; and,
- pH for the Main Scrubber System venturi scrubbing medium.

[Rule 62-297.310(8), F.A.C. and Construction Permit No. 1050059-030-AC]

A.14. Daily and Monthly Log: The permittee shall maintain logs that include, at a minimum, the following:

Daily (by the end of next operating day)

(a) Date;
(b) Hours of operation;
(c) The calculated P_2O_5 feed rate (TPH, daily average basis);
(d) The calculated GMAP production rate (TPH, daily average basis) noting the conversion factor; and,
(e) Hours and types of fuel usage.

Monthly (by the end of the following month)

(f) Month;
(g) Monthly P_2O_5 input and production of GMAP (tons);
(h) P_2O_5 input and production of GMAP for the most recent consecutive 12-month period (tons);
(i) Monthly total fuel usage (gallons);
(j) Total fuel usage for the most recent consecutive 12-month period (gallons);
(k) Monthly total hours of fuel usage; and,
(l) Total hours of fuel usage for the most recent consecutive 12-month period.

The daily logs shall be updated and completed by the end of the next operating day. The monthly logs shall be completed by the 15th of the following month. These records shall be retained at the facility for at least five years and shall be made available to the Department upon request.
[Rule 62-213.440(1)(b), F.A.C.; Construction Permit 1050059-030-AC]

{Permitting Note: Specific Condition Nos. A.2., A.3., A.4., A.5., A.7., A.13. and A.14. are taken directly from the facility's current Title V Air Operation Permit 1050059-069-AV and are included here for the purpose of convenience. All other specific conditions associated with this E.U No. 078 in 1050059-069-AV remain unchanged.}