Florida Department of Environmental Protection

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

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

FINAL PERMIT

PERMITTEE

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

Authorized Representative:
Mr. Holland Thompson, Environmental Superintendent

Air Permit No. 1050046-034-AC
Permit Expires: 12/31/2013
Site Name : Bartow Facility
Minor Air Construction Permit
Project Name: Installation of a coating oil ribbon blender in the No. 3 Fertilizer (DAP/MAP) Plant

This is the final construction permit to install a coating oil ribbon blender in the No. 3 Fertilizer (DAP/MAP) plant in a phosphate fertilizer manufacturing facility.

Mosaic Fertilizer, LLC, Bartow Facility (Standard Classification No. 2874) is located in Polk County at 3200 Highway 60 West, Bartow, Florida. The UTM coordinates are Zone 17, 409.77 km East, and 3087.26 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

_____ _____

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.

Holland Thompson, Mosaic Fertilizer, LLC (holland.thompson@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.

_____ _____

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

This facility consists of several industrial processes that convert insoluble rock containing phosphorus ore into a soluble form suitable for agricultural use. The processes consist of one phosphoric acid plant (two trains), one monoammonium phosphate/ diammonium phosphate (MAP/DAP) plant, one DAP fertilizer plant, three sulfuric acid plants, two fertilizer shipping plants, one auxiliary boiler, and a molten sulfur storage and handling system.

Project Description and Affected/Proposed Emission Units

This construction permit authorizes the installation of a coating oil ribbon blender in the No. 3 Fertilizer (DAP/MAP) Plant downstream of polishing screens and before the Cominco Plate Cooler. The current practice is to apply the de-dusting coating oil into the rotary cooler. This project will modify the following emission unit:

Facility ID No. 1050046	
ID No.	Emission Unit Description
001	No. 3 Fertilizer (DAP/MAP) Plant

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

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (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. 1050046-033-AV.

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

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

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

   All documents related to applications for permits to operate an emissions unit 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 Resource 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 unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and 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.
   [Rule 62-210.300, F.A.C.]

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

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

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

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

8. Actual Emissions Reporting (PSD Major Facilities only): This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
      1) The name, address and telephone number of the owner or operator of the major stationary source;
      2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
      3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
      4) Any other information that the owner or operator wishes to include in the report.
   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   For this project, the Department requires the annual reporting of actual particulate matter (PM and PM_{10}) and fluoride (F) emissions for the following unit: EU 001.

   [Permit Application dated 12/09/2011; 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.11. if not previously submitted; and,

    c. a copy of the most recent month of log required by Specific Condition No. A.12.

    [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. 001: No. 3 Fertilizer (DAP/MAP) Plant

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	The No. 3 Fertilizer (DAP/MAP) Plant has a design capacity of 3,000 tons per day produces ammonium phosphate products: monoammonium phosphate (MAP) and diammonium phosphate (DAP), which may be enhanced with addition of commercially available zinc, copper, boron, manganese and/or sulfur micronutrients. The process consists of a reactor, granulator, dryer, cooler, mills, screens, and ancillary equipment. The dryer is fired with natural gas, or fuel oil with a maximum sulfur content of 1.5 percent, at a design heat input rate of 40 mmBtu per hour. Process gas streams have the following dedicated control equipment: • Reactor has venturi scrubbers and a cyclonic scrubber. • Dryer is controlled by a venturi scrubber and a cyclonic scrubber. • Granulator is controlled by a venturi scrubber and a cyclonic scrubber. • Cooler has venturi scrubbers and a cyclonic scrubber. The dryer process has a dedicated packed bed tail gas scrubber while the reactor, granulator, and cooler processes share a packed bed tail gas scrubber. The two tailgas packed bed scrubbers exhaust to a common stack. The reactor emissions, along with those from elevators, screens, mills, hoppers, and such ancillary equipment areas go through the RV venturi cyclonic scrubber which uses product recovery solution as the scrubbing liquid. Emissions from the granulator go to the granulator venturi cyclonic scrubber which uses product recovery solution as the scrubbing liquid. Emissions from the dryer go to the dryer venturi cyclonic scrubber which uses product recovery solution as the scrubbing liquid. Emissions from the cooler go to the cooler venturi cyclonic scrubber which uses diammonium phosphate (DAP) pond water and effluent from the two tailgas packed bed scrubbers, i.e., the RGCV tailgas packed bed scrubber and dryer tailgas packed bed scrubber. The exhaust from the cooler venturi cyclonic scrubber, the granulator venturi cyclonic scrubber and the RV venturi cyclonic scrubber, all three streams, go to RGCV tailgas packed bed scrubber which uses DAP pond water and re-use water as the scrubbing liquid. Exhaust from the dryer venturi cyclonic scrubber goes to the dryer tailgas packed bed scrubber which uses DAP pond water and re-use water as scrubbing liquid.

Emissions generated from the emission unit are controlled by the cyclonic, venturi and tailgas scrubbers. A de-dusting coating oil application ribbon blender will be installed between the polishing screens and the Cominco Plate Cooler downstream of the rotary cooler of No. 3 Fertilizer (DAP/MAP) Plant to further control PM emissions.

A. EU No. 001: No. 3 Fertilizer (DAP/MAP) Plant

PERFORMANCE RESTRICTIONS

A.1. Permitted Capacity:
a. The maximum permitted production rate for the No. 3 Fertilizer (DAP/MAP) plant shall not exceed 3,000 tons per day of DAP or MAP product including products with commercially available zinc, copper, boron, manganese, and/or sulfur micronutrients. All micronutrients used shall be only those sold commercially as soil nutrients and shall be received, unloaded, handled, and processed such that all emissions of micronutrients are captured by existing air pollution control devices.
b. The maximum process rate shall not exceed 61.25 tons of P_2O_5 input per hour (daily average basis).
c. The maximum heat input rate to the dryer is limited to 40 MMBtu per hour (daily average basis).
[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, Definitions - (PTE), F.A.C., Air Construction Permit PSD-FL-255 (1050046-008-AC & 1050046-012-AC)]

A.2. Authorized Fuel: The dryer shall be fired with natural gas or new No. 6 fuel oil or a better grade oil[(1)]. The fuel oil shall contain no more than 1.5% sulfur, by weight. The "New" fuel oil is defined as being refined from crude oil and has not been used, and may or may not contain additives. No. 6 fuel oil with a maximum content of 1.5% sulfur by weight may be fired up to a maximum of 338,000 gallons per year. Firing rate of either fuel shall not exceed 40 MMBtu per hour. The permittee shall maintain records of the fuel oil supplier's sulfur content analysis.
[Rules 62-4.160(2), and 62-213.440(1), F.A.C., and Air Construction Permit 1050046-008-AC]

[(1)]Better Grade Fuel Oil
A better grade fuel oil is defined as a fuel with a higher ranking in the following list:

Better Grade (Top of List)
new, No. 2 fuel oil
new, No. 3 fuel oil
new, No. 4 fuel oil
new, No. 5 fuel oil
new, No. 6 fuel oil

EMISSIONS STANDARDS

A.3. Particulate Matter (PM) Emissions : Particulate matter (PM) emissions from the No. 3 Fertilizer (DAP/MAP) Plant shall not exceed 0.088 pounds per ton (PPT) of product nor 11.0 pounds per hour.
[Air Construction Permit 1050046-029-AC]
{Permitting Note: This replaces the emissions rate of 0.18 PPT of P_2O_5 feed into the reactor.}

A.4. Fluoride (F) Emissions: Fluoride emissions from the No. 3 Fertilizer (DAP/MAP) Plant shall not exceed 0.041 pound of fluoride per ton of equivalent P_2O_5 feed or 2.5 pounds of fluoride per hour or 10.95 TPY, whichever is less.
[Rule 62-296.403(1), F.A.C. and Air Construction Permit 1050046-008-AC]

{Permitting Note: The fluoride emission limit in Condition A.4. of 0.041 lb/ton of equivalent P_2O_5 feed is more stringent than the applicable NESHAP, 40 CFR 63.622(a) limit of 0.06 lb/ton of equivalent P_2O_5 feed. The permittee shall comply with the applicable requirements of the NESHAP, 40 CFR 63, Subparts A and BB.}

A.5. Visible Emission (VE): Visible emissions shall be less than 15% opacity. The visible emissions test shall be conducted by a certified observer and be a minimum of thirty minutes in duration, unless otherwise specified. The test observation period shall include the period during which the highest opacity can reasonably be expected to occur.
[Rule 62-296.320(4)(a)(2) and (b), F.A.C. and Air Construction Permit 1050046-029-AC]

TESTING REQUIREMENTS

A.6. Initial Compliance Tests: The emission units shall be tested to demonstrate initial compliance with the emissions standards for PM, F and Opacity. The initial tests shall be conducted no later than 90 days after commencing operation of the coating oil ribbon blender.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

A.7. Test Requirements: Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(7)(a)9., F.A.C.]

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

Method (s)	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Determination of Particulate Matter Emissions from Stationary Sources
9	Visual Determination of the Opacity of 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 method(s) are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.
[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

NOTIFICATION REQUIREMENTS

A.9. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.
[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]
{*Permitting Note: The notification should also include the relevant emission unit ID No(s)., test method(s) to be used, and pollutants to be tested.*}

A.10. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the coating oil ribbon blender, no later than fifteen (15) days after that date.
[Rule 62-4.070(3), F.A.C., and Rule 62-210.200, F.A.C., (Definition of Commence Operation)]

RECORDS AND REPORTS

A.11. Test Reports: The permittee shall prepare and submit reports to the Air Compliance Section of the Southwest District Office of the Department for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The test reports shall include, at a minimum, the following conditions for the test period:

a. Type of fuel being fired;
b. Heat input rate (mmBtu/hr) and firing rate Million cubic feet (MCF) per hour or gallons per hour;
c. Material process input rate (tons per hour P_2O_5 input) and production rate (tons per hour);
d. Scrubber liquid flow rate (gpm); and,
e. If the test was conducted while firing natural gas, then include a statement of the total hours of dryer operation while firing fuel oil, of any of the above type (Specific Condition No. A.3.), during consecutive rolling 12- month period prior to the test.

Failure to submit the above information or operating at conditions which do not reflect normal operating conditions may invalidate the test and fail to provide reasonable assurance of compliance.
[Rules 62-4.070(3), 62-213.440(1) and 62-297.310(8), F.A.C.]

A.12. Records: A record shall be maintained to document, at a minimum, the following in order to show compliance with the specific conditions A.2. and A.3.:
Daily

a. Facility Name, Facility ID No. (1050046), Emission Unit ID Nos. (EU 001);
b. Date;
c. Production Mode (DAP or MAP);
d. When operating, record hours of operation of the DAP/MAP production;
e. When operating, record the quantity, in tons, P_2O_5 input and AP production;
f. When operating, record the process rate, in tons/hour of P_2O_5 input (daily average);
g. When operating, record the production rate, in tons/hour (daily average), of the DAP/MAP production;

h. The quantity of natural gas and the quantity and type of oil (No. 2, No. 3, No. 4, No. 5 or No. 6 fuel oil) (MCF and gallons) utilized in the product dryer;
i. The sulfur content (percent, by weight) of each type of oil (No. 2, No. 3, No. 4, No. 5 or No. 6 fuel oil) utilized in the product dryer. The sulfur content may be based upon the fuel oil supplier's sulfur content analysis;
j. The total hours of product dryer operation using oil of any of the above type; and,
k. Heat input rate to the product dryer, mmBtu/hr (daily average).

Daily record should be completed within five (5) business days.

Monthly

l. The total hours of product dryer operation using oil of the above type for each consecutive rolling 12-month period (hours per 12 months); and,
m. Gallons of No. 6 oil or any of the above type of oil used for each consecutive rolling 12-month.

Monthly record should be completed by the 15th day of the following month.

{Permitting Note: Specific Condition Nos. A.1., A.2., A.3., A.4., A.5. & A.11 are taken directly from the Title V permit 1050046-033-AV and are included here for the purpose of convenience. All other specific conditions associated with this E.U No. 001 in 1050046-033-AV remain unchanged.}