



Florida Department of Environmental Protection

Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

FINAL PERMIT

PERMITTEE

Mosaic Fertilizer, LLC
P.O. Box 2000
Mulberry, Florida 33860

Authorized Representative:
Mr. Thomas W. Fuchs, Plant Manager

Air Permit No. 1050059-063-AC
Permit Expires: 09/01/2011
Site Name : New Wales Facility
Minor Air Construction
Project Name: Replacement of Sulfur
Furnace at SAP No. 3

This is the final air construction permit, which authorizes the like-kind replacement of the existing sulfur furnace at Sulfuric Acid Plant (SAP) No. 3 with a new sulfur furnace. This project is not expected to result in an increase in the production rate of sulfuric acid and is not expected to cause an increase in the emissions rate of any of the regulated pollutant. The proposed work will be conducted at the New Wales Facility/ SAP No. 3 (Standard Industrial Classification No. 2874). The facility is located in Polk County at 3095 Highway 640 in Mulberry, Florida. The UTM coordinates are Zone 17, 396.6 km East, and 3078.9 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

Because of 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

Mara Grace Nasca August 20, 2009
Mara Grace Nasca 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 and the Final Permit) 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 08-20-2009 to the persons listed below.

Mr. Thomas W. Fuchs, Plant Manager
Mosaic Fertilizer, LLC - New Wales Facility
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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.

Flonda Hughes 08-20-2009
(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 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 Unit

This project is for the replacement of the existing sulfur furnace at Sulfuric Acid Plant (SAP) No. 3 with a new sulfur furnace. In sulfuric acid plants, the sulfur furnace is used to burn sulfur to produce sulfur dioxide (SO₂) that is used in the production of sulfuric acid. The new furnace is considered a like-kind replacement and will be constructed of firebrick and lightweight castable materials with five burner guns. This project is not expected to result in an increase the production of sulfuric acid and is not expected cause an increase in emissions of the pollutants SO₂, sulfuric acid mist (SAM) and nitrogen oxides (NO_x). This project will modify the following emissions unit.

Facility ID No. 1050059	
ID No.	Emission Unit Description
004	Sulfuric Acid Plant No. 3

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. 1050059-045-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 Office'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.
 - e. Appendix E. Best Operational Start-up Practices For Sulfuric Acid Plants
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]
6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

7. Source Obligation (PSD Major facilities only):

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

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

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

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

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

For this project, the Department requires the annual reporting of actual NO_x, SO₂, and SAM emissions for Emissions Unit ID No. 004.

[Permit Application dated 5/5/2009; Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

9. Recordkeeping: All measurements, records and other data required to be maintained by this facility shall be retained for at least five and shall be made available to the Department upon request.
[Rules 62-213.440(1), and 62-4.070(3), F.A.C.]
10. 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.]
11. Application for Title V Air Operation Permit: This permit authorizes the construction modification of the permitted emissions unit and initial operation to determine compliance with Department rules. A Title V air operation permit is required for continued operation of the permitted emissions unit. The permittee shall apply to revise the current Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation as modified. To apply for a revised 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 reports required by Specific Condition No. A.10 if not previously submitted; and
 - c. a copy of the most recent two months of records/logs specified in Specific Condition Nos. A.18 and A.19.

The application shall be submitted to the Permitting Authority.

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

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

B. Sulfuric Acid Plant No. 3

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	Sulfuric Acid Plant No. 3

PERFORMANCE RESTRICTIONS

- A.1. Federal Regulatory Requirements: This emissions unit is subject to 40 CFR 60 Subpart H – Standards of Performance for Sulfuric Acid Plants, which is adopted by reference in Rule 62-204.800, F.A.C.
[Rule 62-204.800(8), F.A.C.]
- A.2. Permitted Capacity: The maximum operation rate of this emissions unit shall not exceed 3,400 tons per day of 100% H₂SO₄ with a proportionate supply of sulfur from the existing sulfur system.
[Permit 1050059-036-AC (PSD-FL-325); Rule 62-210.200(PTE), F.A.C.]
- A.3. Restricted Operation: The hours of operation of are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
- A.4. Best Operational Practices: Best operational practices to minimize leaks of sulfur dioxide and sulfur trioxide or other fugitive process emissions shall be adhered to and shall include regular inspections and prompt repair or correction of any leak or other fugitive emissions.
[Permit 1050059-036-AC (PSD-FL-325); Rule 62-296.320, F.A.C.]
- A.5. Excess Emissions During Start-Up: Sulfuric acid plants are authorized to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices to minimize emissions, in accordance with the agreement titled “Best Operational Startup-Up Practices For Sulfuric Acid Plants” is followed. The provisions of the agreement issued by the Department, are attached to this permit as Appendix E.
[Permit 1050059-036-AC (PSD-FL-325); Rule 62-210.700, F.A.C., 40 CFR 60.7]

EMISSIONS STANDARDS

- A.6. SO₂ Standard: Sulfur dioxide (SO₂) emissions shall not exceed the following limits:

lb/ton of 100% H ₂ SO ₄	lb/hr	TPY
3.5 (24-hr rolling average)	496	2,172
4.0 (3-hr rolling average)	567	

[Permit 1050059-036-AC (PSD-FL-325); Rule 62-296.402, F.A.C.; 40 CFR 60, Subpart H]

- A.7. SAM Standard: Sulfuric Acid Mist (SAM) emissions shall not exceed the following limits:

lb/ton of 100% H ₂ SO ₄	lb/hr	TPY
0.10	14	62

[Permit 1050059-036-AC (PSD-FL-325); Rule 62-296.402, F.A.C.; 40 CFR 60, Subpart H]

- A.8. NO_x Standard: Nitrogen oxide (NO_x) emissions shall not exceed the following limits:

lb/ton of 100% H ₂ SO ₄	lb/hr	TPY
0.12	17	75

[Permit 1050059-036-AC (PSD-FL-325) and BACT Determination dated 7/11/2002]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

B. Sulfuric Acid Plant No. 3

- A.9. Visible Emissions Standard: Visible emissions shall not be equal to or be greater than 10% opacity.
[Permit 1050059-036-AC (PSD-FL-325); Rule 62-296.402, F.A.C.; 40 CFR 60, Subpart H]

TESTING REQUIREMENTS

- A.10. Initial Compliance Tests: The emissions unit shall be tested to demonstrate compliance with the visible emissions opacity standard and with the SAM and NOx emissions standards. The initial tests shall be conducted within 60 days after achieving the maximum production rate at which Sulfuric Acid Plant No. 3 will be operated, but not later than 180 days after initial operation of the new sulfur furnace.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.; 40 CFR 60, Subpart A]
- A.11. Compliance Tests: During each federal fiscal year (October 1st to September 30th), the emissions unit shall be tested to demonstrate compliance with the visible emissions opacity standard and with the SAM and NOx emissions standards.
[Rule 62-297.310(7)(a)4., F.A.C. and BACT Determination dated 7/11/2002]
- A.12. 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.13. 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
6C	Determination of Sulfur Dioxide Emissions From Stationary Sources (Instrumental Analyzer Procedure)
7E	Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedure)
8	Determination of SAM and SO ₂ Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

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]

{Note: This emissions unit demonstrates compliance with the emissions standards for the pollutant SO₂ using a SO₂ CEMS. Therefore, no initial or annual compliance test is required SO₂.}

B. Sulfuric Acid Plant No. 3

MONITORING REQUIREMENTS

- A.14. A CEMS shall be calibrated, maintained, operated and used to determine compliance with the 3-hour and 24-hour rolling average emissions limit for SO₂. The CEMS shall be operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedure (2001 version) or other Department-approved QA plan; 40 CFR 60, Appendix B, Performance Specification 2 (2001 version).

The CEMS shall calculate and record emission rates in units of pounds SO₂ per ton of 100 percent sulfuric acid produced. Each operating day, the rolling averages of the SO₂ emissions rate for the 3 hours and 24 hours shall be calculated and recorded. Emissions shall be calculated in units of pounds of SO₂ per ton of 100 percent acid using one of the methods specified in 40 CFR 60.84. 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 measures 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 and 24-hour rolling averages. Data recorded during periods of shutdown, malfunction, load change and continuous operating periods shall be included in the calculation of the 3-hour and 24-hour rolling averages.

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.

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 proposed location of each stack probe shall be provided to the Department for review at least 30 days prior to installation of a new CEMS.

[Permit 1050059-036-AC (PSD-FL-325); Rule 62-4.070(3) and 62-204.800, F.A.C.:]

NOTIFICATION REQUIREMENTS

- A.15. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. For NSPS performance test, the permittee shall notify the Compliance Authority in writing at least 30 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

B. Sulfuric Acid Plant No. 3

telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test. {Permitting Note: The notification should also include the relevant emission unit ID No(s), test method(s) to be used, and pollutants to be tested.}

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.; 40 CFR 60.8(d)]

- A.16. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the new sulfur furnace, no later than five (5) business days after that date.
[Rule 62-4.070, F.A.C.]

RECORDS AND REPORTS

- A.17. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(8), F.A.C.]

- A.18. Production Log: To document compliance with the daily production rate limitations of **Condition A.2**, the permittee shall maintain daily records of Sulfuric Acid Plant H₂SO₄ production for this emissions unit. 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.]

- A.19. Emissions Log: To document ongoing compliance with the emission limitations of **Condition A.6**, the permittee shall maintain monthly records of Sulfuric Acid Plant sulfur dioxide (SO₂) emissions for this emissions unit. The records shall include the following for each day of the month:

- a. daily acid production (in tons as 100% H₂SO₄);
- b. hours operated;
- c. daily average pounds/ton SO₂;
- d. a conversion factor shall be established for the purpose of converting sulfur dioxide monitoring data into units of the applicable standard (lb/ton). The conversion factor shall be determined, at a minimum, three times daily in accordance with 40 CFR 60.84(b). The lb/ton conversion factor determination and calculation procedure may be incorporated into electronic report programming or software. The lb/ton conversion factor determination and calculation procedure shall be accessible to the Department and made available upon request.

[Rules 62-204.800(8)(b)11. and 62-4.070(3), F.A.C.; 40 CFR 60.84(b) & (c)]

- A.20. In accordance with 40 CFR 60.7(b), the permittee shall maintain records of any periods during which the sulfur dioxide monitor system is inoperative. Records on monitoring system performance evaluations, calibrations and maintenance shall be maintained in accordance with 40 CFR 60.7(d).
[Rule 62-204.800(8)(b)11., F.A.C and 40 CFR 60.7(d)]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (FINAL)

B. Sulfuric Acid Plant No. 3

A.21. The permittee shall submit a written report of excess sulfur dioxide emissions for every calendar quarter in accordance with 40 CFR 60.7(b) and (c). Periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standard under 40 CFR 60.82. The excess emission report shall also include a statement of all periods during the quarter when the sulfur dioxide monitoring system was inoperative. Copies of the quarterly sulfur dioxide excess emission report shall be submitted to the Compliance Authority.

[Rule 62-204.800(8)(b)11., F.A.C and 40 CFR 60.84(e)]

A.22. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the sulfuric acid plants; or any malfunction of the air pollution control equipment.

[Rule 62-204.800(8)(b)11., F.A.C. and 40 CFR 60.7]