Title V Air Operation Permit Renewal
Permit No. 0570008-066-AV
Renewal to Title V Air Operation No. 0570008-063-AV

APPLICANT

The applicant for this project is Mosaic Fertilizer, LLC. The applicant's responsible official and mailing address are: Larry Simpson, Plant Manager, Mosaic Fertilizer, LLC, Riverview Facility, 13830 Circa Crossing Drive, Lithia, FL 33547.

FACILITY DESCRIPTION

The applicant operates the Mosaic Riverview Facility, which is located in Hillsborough County at 8813 US Highway 41 South, Riverview, Florida.

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), two ammoniated phosphate (AP) plants, three sulfuric acid plants, one material handling system, one auxiliary boiler, two animal feed plants, a molten sulfur storage and handling system and emergency compression ignition (CI) reciprocating internal combustion engines (RICE).

Molten sulfur is the feed for the double absorption sulfuric acid plants. Natural gas or No. 2 fuel oil is used for the cold start-up of the plants. These emission units are regulated under NSPS - 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid, adopted and incorporated by reference in Rule 62-204.800(8)(b)10., F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards; and Rule 296.402, F.A.C., Sulfuric Acid Plants. Sulfur dioxide from each sulfuric acid plant is controlled by a dual absorption tower, and acid mist is controlled by mist eliminator. These units utilize continuous emission monitors (CEMs) for sulfur dioxide (SO_2) emissions monitoring.

Phosphate rock and sulfuric acid are the primary feed for the phosphoric acid plant. This emission unit is regulated under National Emission Standards for Hazardous Air Pollutants (NESHAP) - 40 CFR 63, Subpart A – General Provisions; 40 CFR 63, Subpart AA - NESHAP From Phosphoric Acid Manufacturing Plants, adopted and incorporated by reference in Rule 62-204.800, F.A.C.; Administrative Order No. 03-C-AP for alternative MACT monitoring plan; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); and Rule 62-296.403, F.A.C., Phosphate Processing. Fluoride emissions from this source are controlled by scrubbers.

Phosphoric acid is the feed for the Fertilizer (AP) Plants. Each of these emission units consists of a reactor, granulator, dryer, cooler, mills, screens and ancillary equipment. The dryer is fired with natural gas with No. 2 fuel oil as a backup. These emission units are regulated under New Source Performance Standard (NSPS) - 40 CFR 60, Subpart V, Standards of Performance of Phosphate Fertilizer Industry: Diammonium Phosphate Plants; and NESHAP – 40 CFR 63, Subpart A – General Provisions; 40 CFR 63, Subpart BB – NESHAP From Phosphate Fertilizers Production Plants, adopted and incorporated by reference in Rule 62-204.800, F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards; Rule 62-296.403, F.A.C., Phosphate Processing. Emissions from this source are controlled by the scrubbers.

The Animal Feed Ingredient (AFI) facility consists of defluorinated acid batch tanks (3) and granulation system along with diatomaceous earth and limestone unloading systems, and the AFI loadout system. Emissions from loading and unloading activities are controlled by baghouses.

The material handling system transfers MAP, DAP, calcium phosphate animal feed, and phosphate rock from the storage buildings or rail cars to marine vessels and from the storage buildings to railcars, truck and container loadouts.

Particulate matter emissions generated during the transfer of materials are controlled by baghouses and are minimized through: a) partial enclosures, covered conveyors and equipment enclosures, b) the use of a telescopic chute during ship loading, c) minimize the drop height as much as practicable during ship loading, d) using a skirt or equivalent at the bottom end of the telescopic chute to provide cover during the unloading of fertilizer product into the ship cargo hold, e) coating products with dust suppressants, and f) restricting operating hours. A revised Operation and Maintenance (O & M) plan for the new baghouses are included in the permit.

The facility has existing emergency compression ignition reciprocating internal combustion engines (CI RICE) that are subject to 40 CFR 63, Subpart A – General Provisions and Subpart ZZZZ - NESHAP for Stationary RICE.

Also included in this permit are miscellaneous unregulated and insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permit is to renew the Title V air operation permit No. 0570008-063-AV and incorporate terms and conditions of air construction permits (0570008-065-AC and 0570008-069-AC) for the above referenced facility . This permit also incorporates existing compression ignition (CI) reciprocating internal combustion engines (RICE) that are subject to 40 CFR 63, Subpart A – General Provisions and Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants (NESHAPs).

The air construction permit (0570008-069-AC) modifies Specific Condition No. A.12 in construction permit (0570008-065-AC) and is co-processed with the Title V air operation permit (0570008-066-AV).

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Processing Schedule and related documents:
Initial Title V Air Operation Permit issued: 04/28/1999
Renewal Title V Air Operation Permit issued: 05/31/2006
Title V Air Operation Permits issued 10/27/2008 and 10/13/2010
Application for a Title V Air Operation Permit Renewal received 10/18/2010
Additional Information Request dated 12/15/2010
Additional Information Response received 03/15/2011
Notice of Intent to Issue Air Permit issued 06/10/2011
Application for Title V Air Operation Permit Revision and Construction Permit received 7/14/2011
Notice of Revised Intent to Issue Air Permit issued 07/29/2011
Public Notice for Revised Draft Permit Published 8/5/2011

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

SITING: No Unit was originally certified pursuant to the power plant siting provisions of Chapter 62-17, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to the applicable emission units at the facility, described as follows:

EU ID No.	Brief Description	Pollutants subject to CAM	Control Device subject to CAM
-007	No. 6 AP Plant	PM	Cooler venturi & tailgas scrubbers

PROJECT REVIEW

The Title V Air Operation Permit Renewal is reformatted in accordance with the latest template available. A common appendices file has been created to bundle up the following documents together: Appendix A, Appendix TR (Testing Requirements), Appendix RR (Reporting Requirements), Appendix TV (Title V Conditions), Appendix U, Appendix I, Figure 1, Table 1, Table 2, and Table H. Subsections for EU Nos. 007 (No. 6 AP Plant), 055 (No. 5 Granulation Plant), and 073 (Phosphoric Acid Production Facility) have been streamlined by moving the NESHAP Subparts AA and BB conditions to the new Subsection named Common Conditions.

This permit also modifies the description of the following emissions units in accordance with Construction Permit 0570008-067-AC, issued on June 8, 2011:

EU No.	From	To
075	AP Storage Building No. 2	AP Storage Building Nos. 2, 4, 5 & 6
076	AP Storage Building No. 4	AP Loadout between Storage Building Nos. 2 & 4
077	AP Truck Loading Station	AP Loadout adjacent to Storage Building No. 6

The Title V Air Operation Permit Renewal includes the incorporation of two construction permits 0570008-065-AC and 0570008-069-AC.

Construction Permit 0570008-065-AC: The construction permit authorized the replacement of baghouses associated with the Material Handling System in the Mosaic Riverview Facility. The project modified EU Nos. 051, 052, 053, 058, 059 and 060. The existing baghouses were old and functioning poorly. The new baghouses/dust collectors are expected to better capture particulate matter (PM) including most of the fugitive emissions.

Construction Permit 0570008-069-AC: The construction permit modifies the specific condition A.12 of the construction permit 0570008-065-AC as following:

i. Removes the “Measurement Frequency” column from the table

ii. Replace the “12-minute VE observation, using EPA Method 9” with “VE observation using EPA Method 22”.

The Title V Air Operation Permit Renewal revises the Operation & Maintenance (O & M) plan of the material handling system in Section III, Subsection D, Condition D.17. It corrects the description of testing methods 13A and 13B in the Section III, Subsection E, Condition E.6. It also modifies the approval process of establishing allowable ranges in NESHAP Subparts AA and BB, 40 CFR 63.605(d)(1) & (2) and 40 CFR 63.625(f)(1) and (f)(2) respectively in Section III, Subsection M, Conditions M.8. and M.18.

Discussions of the reasons for the changes made as part of this project:

1. The Title V Air Operation Permit 0570008-066-AV: Section III, Subsection D, Condition No. D.17. O & M Plan for PM control is revised due to replacement of baghouses with new ones.
2. Title V Air Operation Permit 0570008-066-AV, Section III, Subsection E, Condition E.6., descriptions of test methods 13A and 13B got interchanged. The revised permit corrects the test method descriptions.
3. Title V Air Operation Permit 0570008-066-AV, Section III, Subsection M, Conditions M.21., and M.22, NESHAP Subparts AA and BB, 40 CFR 63.605(d)(1) & d(2) and 40 CFR 63, 625 (f)(1) & (f)(2) have been modified as below:

   The approval process as described in federal regulation at 40 CFR 63.605(d)(1) & (d)(2) specifically, "*If the Administrator has not denied approval of the new operating ranges within 30 days of submission of the performance test results, the new ranges shall be deemed approved and the new baseline value shall then be effective on the 31st day following submission*."
   is replaced with:

   "Upon establishment of a new operating range the permittee shall operate under the new range. If the compliance authority has reason to believe the compliance test was not done properly then the compliance authority shall require a special compliance test pursuant to Rule 62-297.310(7)(b), F.A.C."

   The approval process as described in federal regulation at 40 CFR 63.625(f)(1) & (f)(2) specifically, "*If the Administrator has not denied approval of the new operating ranges within 30 days of submission of the performance test results, the new ranges shall be deemed approved and the new baseline value shall then be effective on the 31st day following submission."*
   is replaced with:

   "Upon establishment of a new operating range the permittee shall operate under the new range. If the compliance authority has reason to believe the compliance test was not done properly then the compliance authority shall require a special compliance test pursuant to Rule 62-297.310(7)(b), F.A.C."

CONCLUSION

This project renews Title V air operation permit No. 0570008-063-AV, which was issued on 10/13/2010. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.