Title V Air Operation Permit Renewal
Final Permit No. 1050055-023-AV

APPLICANT

The applicant for this project is Mosaic Fertilizer, LLC. The applicant's responsible official and mailing address are: Mr. Thomas W. Fuchs, Plant Manager, Mosaic Fertilizer, LLC - South Pierce Plant, 13830 Circa Cross Drive, Lithia, Florida 33547.

FACILITY DESCRIPTION

The applicant operates the South Pierce Plant, which is located at 7450 Highway 630, Mulberry, Florida.

This facility is classified as a phosphate fertilizer production facility. The facility consists of two sulfuric acid plants, an auxiliary boiler, a molten sulfur storage and handling system, a phosphate rock hopper bin, a phosphogypsum stack, and two emergency diesel engines. Each sulfuric acid plant has a maximum sulfuric acid (100% H_2SO_4 basis) production rate of 3,000 tons per day of and utilizes the double absorption process. Sulfuric acid mist emissions from the process are controlled by high efficiency mist eliminators. These plants utilize continuous emissions monitors to demonstrate compliance with the SO_2 emissions standards. The sulfuric acid plants are regulated under Rule 296.402, F.A.C. - Sulfuric Acid Plants; and 40 CFR 60, Subpart H - Standards of Performance for Sulfuric Acid Plants. The facility's auxiliary boiler has a maximum heat input rate 171 MMBtu per hour and is fired with natural gas or no. 2 fuel oil. The boiler is regulated under Rule 296.406, F.A.C. - Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, New and Existing Emissions Units; and 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The facility's molten sulfur handling system has maximum permitted molten sulfur throughput limit of 2,300 tons per day (based on a 5 day rolling average). The sulfur handling system is regulated under Rule 62-296.411(1), F.A.C. - Sulfur Storage and Handling Facilities.

This facility previously included two phosphoric acid plants, one dry ball mill grinding system, a granular triple superphosphate (GTSP) production plant and the GTSP storage building. These systems were put into long term reserve shutdown on May 31, 2006 and were declared permanently shutdown in the permit renewal application dated November 29, 2010.

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

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit issued July 12, 2006
Application for a Title V Air Operation Permit Renewal received November 29, 2010
Additional Information Request dated January 27, 2011
Additional Information Response received April 25, 2011
Notice of Intent to Issue Air Permit issued July 20, 2011
Public Notice Published August 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.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

PROJECT REVIEW

This renewal reformats the Title V permit from the old format to the new and revised format that became the new standard for Title V renewal projects in 2011. Included below are the changes that were made as part of this renewal:

a. The following emissions units were permanently shutdown and removed from the permit:
   (1) E.U. 008 – Phosphoric Acid Plant No. 10
   (2) E.U. 009 – Phosphoric Acid Plant No. 11
   (3) E.U. 022 – No. 2 Ball Mill Grinding System
   (4) E.U. 023 – GTSP Production Plant
   (5) E.U. 024 – GTSP East Storage Building – North Scrubber
   (6) E.U. 025 – GTSP East Storage Building – South Scrubber

b. 40 CFR 63, Subparts AA and BB no longer apply because the phosphoric acid and GTSP plants have been permanently shutdown.

c. Emissions Unit No. 054 – Emergency Diesel Engines was added to cover engines regulated by 40 CFR 63, Subpart ZZZZ.

d. The auxiliary boiler (E.U. 001) is subject to Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with less than 250 Million Btu per Hour Heat Input. This rule requires BACT for PM and SO_2; however, I was not able to find a BACT determination for this emissions unit. A BACT was created and issued and as a result, the permitted sulfur limit in the fuel was reduced from 0.5% to 0.05% by weight.

e. The new auxiliary boiler (E.U. 053) authorized by Construction Permit 1050055-022-AC which is processed concurrently with this Title V renewal, is included in this renewal permit along with a compliance plan since the boiler has not been installed.

f. Specific Condition Nos. A.8 and A.11 of Title V Permit 1050055-014-AV were revised. Specific Condition No. A.8 required annual testing of the boiler and Specific Condition No. A.11 allowed the permittee to waive annual VE testing if the boiler was fired with fuel oil no more than 400 hours. Specific Condition No. A.11 also required the permittee to submit a request for the waiver to the department each year. The language for the two conditions was combined into one Specific Condition and the language that required the permittee to submit a request for a waiver was replaced with language that requires the permittee to submit a notification to the Compliance Authority stating that the boiler was fired no more than 400 hrs for the federal fiscal year.

g. Specific Condition No. A.13 of Title V Permit 1050055-014-AV was removed. This condition states that testing is not required if the emissions unit is not fired with fuel oil more than 200 hours per year. This condition overlapped Specific Condition No. A.11 of Title V Permit 1050055-014-AV which allowed the permittee to waive annual VE testing if the boiler was fired with fuel oil no more than 400 hours.

h. Sulfuric Acid Plant No. 11 has been shut down since November 13, 2008 and was therefore given a permit expiration date of November 13, 2013 based on Rule 62-210.300(2)(a)3.b., F.A.C.

i. Specific Condition No. H.4 of Title V Permit 1050055-014-AV was removed. This condition included a table of estimated emissions from the sources in the molten sulfur storage and handling system. This is informational only and does not provide emissions limits or standards.

j. Limestone storage and handling for the water treatment system for the phosphogypsum stack was added to the facility's "List of Insignificant Emissions Units and/or Activities" (Appendix I). Activities previously listed under Granulation were removed from Appendix I because the GTSP plants were shutdown and removed from the renewal permit.

k. The individual emissions units related to molten sulfur storage and handling (i.e., E.U. Nos. 030, 031, 032, 033, 035, 036, 037, 038, 039, 040, 042, 043 and 050) were all combined into a single emissions unit (i.e., E.U. No 30). The molten sulfur handling system description was also revised to properly reflect the construction modifications of Construction Permit 1050055-013-AC. Construction Permit 1050055-013-AC was incorporated in the last renewal (1050055-014-AV), but the description was not properly revised.

CONCLUSION

This project renews Title V air operation permit No. 1050055-014-AV, which was issued on July 12, 2006. 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.