Title V Air Operation Permit Revision
Permit No. 1050059-088-AV

APPLICANT

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

FACILITY DESCRIPTION

The applicant operates the existing New Wales Facility, which is located in Polk County at 3095 Highway 640, Mulberry, Florida.

This existing 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 molten sulfur storage & handling system; a limestone storage silo/rock grinding operation; and a phosphogypsum stack.

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

PROJECT DESCRIPTION

The purpose of this permitting project is to revise the existing Title V permit for the above referenced facility to incorporate project No. 1050059-074-AC to replace the GMAP equipment scrubber. It also makes several other miscellaneous changes to permit language as requested by the permittee.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit No. 1050059-075-AV issued 11/6/2012
Title V Air Operation Permit Revision No. 1050059-083-AV issued 11/25/2013
Application for a Title V Air Operation Permit Revision received 2/28/2014
Notice of Intent to Issue Air Permit issued [Month day, year] *(To be determined)*
Public Notice Published [Month day, year] *(To be determined)*

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 operates emissions units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates emissions 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) applies to emissions units at this facility. The other emissions units at the facility are not subject to CAM for one or more of the following reasons: they do not trigger the pre-

air pollution control device major source emission thresholds; they demonstrate continuous compliance with a continuous emission monitoring system (CEMS); or, they are not equipped with air pollution control devices.

PROJECT REVIEW

This project review summarizes the changes made in this Title V air operation permit revision as per the table shown below:

Proposed Revisions to New Wales Title V permit:

1. Incorporate the permit to replace the GMAP equipment scrubber (1050059-074-AC) –
    a. Modify process description, control equipment list/description to show removal of impact sprays,
    b. Remove PM lb/ton and ton/yr limit while retaining lb/hr limit. The limit was taken to escape PSD; there is no need for a performance limit when avoiding PSD; the lb/hr limit is adequate to ensure compliance with PSD review requirements. The ton/yr limit is redundant with the lb/hr limit – it is equivalent to 100% operation (8760 hrs/yr) at the lb/hr limit.
2. Clarify averaging times for limits written without explicit averaging times.
3. Clarify that process throughput restrictions as a result of stack testing apply only to process feed and not to heat input for various units (EU-009, EU-045, EU-046, EU-027, EU-078). (See Attachment 1-A below)
4. Revise list of RICE engines subject to 40cfr63 subpart ZZZZ.
5. Correct citations to common conditions (from CC.6 to CC.9, CC.2 to CC.6, CC.5 to CC.3) to reflect numbering changes in 083-AV.

Table 1. Permit language proposed modifications

083-AV section	Old Language	New Language	Reason
Just before Common Condition CC.9	**Air Pollution Control Device/Systems Monitoring** *{Applicability Note: **Common Condition No. 6.** applies to air pollution control devices/systems not subject to MACT or CAM as referenced in the emissions units sections of this permit.}* *{Note: For ease of reference, **Common Condition No.6.** in this Subsection corresponds to **Facility-wide Condition 14.** of the initial Title V permit.}*	**Air Pollution Control Device/Systems Monitoring** *{Applicability Note: **Common Condition No. ~~6~~ 9.** applies to air pollution control devices/systems not subject to MACT or CAM as referenced in the emissions units sections of this permit.}* *{Note: For ease of reference, **Common Condition No.~~6~~ 9.** in this Subsection corresponds to **Facility-wide Condition 14.** of the initial Title V permit.}*	Correct citation from CC.6 (the citation in 075-AV) to CC.9 (the citation in 083-AV)
M. process description	Emissions from various material handling equipment are directed to the Equipment Scrubber System, consisting of a venturi, 4 impact sprays, and a 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 the atmosphere.	Emissions from various material handling equipment are directed to the Equipment Scrubber System, consisting of a variable throat venture scrubber, ~~4 impact sprays,~~ and a 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 the atmosphere.	
M.3	(b) Fuel heat input 30.0 mmBtu/hr (daily average) New No. 6 fuel oil or better grade with a fuel oil sulfur content of up to 2.50% S, by weight (see CC.5 for the definition of a better	(b) Fuel heat input 30.0 mmBtu/hr (daily average) New No. 6 fuel oil or better grade with a fuel oil sulfur content of up to 2.50% S, by weight (see CC.~~5~~ 3 for the definition of a better grade fuel oil).	Correct common condition citation.

	grade fuel oil).		
M.6	Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]	Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.] ***Permitting Note: The Operating Rate Limitation applies to the process throughput for the unit and not to the heat input for the product dryer.***	Clarification of permit requirements.
M.8	PM/PM10 Emissions: PM/PM10 emissions from the GMAP Plant shall not exceed 0.0645 lb PM/ton of product, 9.68 lb/hr, and 42.4 tons per year. *{Permitting Note: This limit is more stringent than a previous limit established to avoid PM RACT (see IMC letter dated 11/29/94)}* [Rules 62-210.200 (PTE) and Construction Permit 1050059-030-AC]	**M.8.** PM/PM10 Emissions: PM/PM10 emissions from the GMAP Plant shall not exceed ~~0.0645 lb PM/ton of product~~, 9.68 lb/hr~~, and 42.4 tons per year~~. *{Permitting Note: This limit is more stringent than a previous limit established to avoid PM RACT (see IMC letter dated 11/29/94)}* [Rules 62-210.200 (PTE) and Construction Permit 1050059-030-AC]	Limit taken to avoid PSD; no need for performance limit when lb/hr limit exists. Ton/yr limit is exactly equivalent to lb/hr limit at 100% operating factor so is redundant.

Section III. Subsection N. List of engines for EU-087 Emergency Stationary CI RICE<500 HP:
EU 087- Existing Emergency Stationary CI RICE < 500 HP

Manufacturer & Model Number	HP Rating	Date (Year) of Manuf./Const	Emergency Engine Purpose	Status
Cummins Model NTA855P450	425	Prior to June 12, 2006	No.2 Deepwell	In Service
Cummins Model NTA855F2	350	Prior to June 12, 2006	CI Diesel Fire Pump	Intermittent Service
~~Cummins Model IND355BC~~	~~335~~	~~Prior to June 12, 2006~~	~~Decant Pump~~	~~Out of Service~~
~~Detroit, Model 12V71~~	~~350~~	~~Prior to June 12, 2006~~	~~CI # 5 Generator~~	~~Out of Service~~

EU 088 - Existing Non-Emergency CI RICE 100 ≤ HP ≤ 500 HP

Manufacturer & Model Number	HP Rating	Date (Year) of Manuf./Const	Engine Location/Purpose	Status
~~Cummins, Model No. 6BT~~ [a]	~~152~~	~~Prior to June 12, 2006~~	~~C-1 Liqua Water Blaster (Trailer Mounter #T112)~~	~~Not Stationary~~
~~John Deere 4054 TF150I~~	~~99~~	~~Prior to June 12, 2006 [1/1/2003]~~	~~Booster Pump~~	~~Not Stationary~~
~~Cummins, Model No. 6BT~~ [a]	~~152~~	~~Prior to June 12, 2006~~	~~Water Blaster~~	~~Not Stationary~~
~~Ford, Model 4500EM/T-4668~~ [b]	~~105~~	~~Prior to June 12, 2006~~	~~C1 DAP #2 Portable Booster Pump, Diesel Powered~~	~~Not Stationary~~

Notes:

[a] The engine horsepower rating was incorrectly rated as 204 HP in Title V Permit No.1050059-083-AV

[b] The engine was incorrectly classified as an Emergency engine under EU 087 in Title V Permit No.1050059-083-AV.

ATTACHMENT 1-A. Limitations on Operating Rate following Testing.
Mosaic has several ammoniated phosphate plants that have an operating limit on product throughput. In addition, these plants have product dryers that have MMBtu/hr heat input limits. Mosaic seeks to clarify that the limitation on the Operating Rate following testing for these units applies only to the limit on product throughput and not to the limit on heat input to the dryers.
Mosaic seeks this clarification for three reasons:

a) It appears that the "operating rate" as used in the regulatory language and as used in the Title V permit is intended to represent the production unit throughput, not ancillary heat input.
b) From a practical standpoint, limiting the heat input to the dryer would not have much effect on unit emissions. The major pollutants from these units are PM and F. The heat input rate to the product dryer has little impact on these emissions.
c) New Wales has 5 sulfuric acid plants that produce a significant amount of steam and this steam is used to preheat the product going to the product dryer, so that product throughput in the AP plants is not directly proportional to heat input to the product dryer. If heat input rates become limited as a result of stack testing, then Mosaic will have to artificially cut back on steam preheat in increased firing rate in the dryer during stack tests to preserve drying capability.

The changes made in the draft permit documents are specifically shown as follows: deletions are noted as ~~strikethrough~~ and additions are noted as shaded. The changes are not shown in the final permit documents.

Permit

- Incorporation of Permit No. 1050059-074-AC which authorized replacement of the existing venturi – cyclonic demister with a variable throat venturi scrubber with its associated cyclonic demister. The applicable requirements from Permit No. 1050059-074-AC are included in the Emissions Unit Subsection III.M. of this revised Title V air operation permit. Specifically, the emissions unit description is updated.
- Expanded Section III, Subsection N, Federal Rule Requirements by adding all the related Essential Potential to Emit (PTE) Parameters, General Requirements, Monitoring of Operations, Compliance for Existing Engines and Recordkeeping and Reporting Requirements.

- Miscellaneous Applicant Requested Revisions. Miscellaneous revisions were requested by the applicant in this application (see Attachment 1 of the permit application for a complete detailed listing). Here is a brief summary of the requested administrative changes that were made in this permit:
    - Clarified averaging periods for production, process and heat input rates throughout the permit for EU Nos. 009, 045, 046, 027 & 078.
    - Revised PM/PM_{10} emissions for the GMAP plant (E.U. No. 078).
    - Subsection III.N. Engines. Some of the engines for emissions unit EU 087 are deleted. All of the engines of emissions unit EU 088 are deleted.

CONCLUSION

This project revises Title V Air Operation Permit No. 1050059-083-AV, which was issued on 11/25/2013. This revision is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.