DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B198970959

FACILITY: Advanced Micronutrient Products, Inc.		**SRN / ID:** B1989
LOCATION: 2405 W. Vassar Rd. (M-15), REESE		**DISTRICT:** Bay City
CITY: REESE		**COUNTY:** SAGINAW
CONTACT: Terry Hart , Operations Manager		**ACTIVITY DATE:** 03/01/2024
STAFF: Gina McCann	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FCE inspection of PTI 119-68B, 316-77A, 52-18, and19-15.		
RESOLVED COMPLAINTS:		

On March 1, 2024 I performed an unannounced inspection of Advanced Micronutrient Products, Inc. (AMP). There are six active permits for the facility issued between 1974 and 2015 and two grandfathered processes. The facility obtained an opt-out permit for the facility in 2015. At the time of the inspection the facility appeared to be in compliance with the items reviewed at the time of the inspection.

Advanced Micronutrient Products is a micronutrient fertilizer manufacturing facility built and operating since 1951. The base product is an ammonium phosphate granular fertilizer that is formulated with various micronutrients including zinc, manganese, magnesium, boron, calcium, iron and copper. The micronutrients are recycled baghouse material from the auto industry and steel mills. The on-site lab verifies product specifications and certifies the material does not contain heavy metals.

The granulator drum's typical recipe adds sulfuric acid, rolls in a drum, process exhausts to scrubber, drops about 4 floors to a dryer (Baghouse and scrubber). The plant can produce over 100 different products.

The various raw materials are received at the site in several forms including rail, truck and totes. These materials are transferred into the appropriate storage stall within the building using a front loader. The necessary components for the different batches are loaded into an elevator and transferred to the screens, hoppers and scales on the upper floors of the facility. The materials are then blended to the appropriate mixtures and fed to the granulator. In the granulator, the acid solutions (acids and scrubber liquids) and anhydrous ammonia are added to the mixture to generate a slurry. The granulator is a rotary drum style mixer and the emissions from the granulator are controlled by a baghouse and a wet scrubber.

Granulated ammonium phosphate is sent to the countercurrent rotary dryer. The material from the dryer is passed through the sizing screen to remove over-sized and under-sized materials. The dried material is then sent to the product cooler and transferred to various locations for blending and loading. Final product is shipped by bulk truck, tote or in 50# sacks. Emissions from the drier are also controlled by a baghouse and wet scrubber. Emissions from the blenders, coolers, conveyors/elevators, and bagging/loadout operations are controlled by various baghouses. Collected air

contaminants and spent scrubber water are reintroduced into the manufacturing process.

AMP currently monitors the operational parameters of the process and control equipment. This information is added into a spreadsheet for digital recordkeeping. The facility has standard operating procedures (SOPs) for baghouse operations for both production and shipping activities. The SOPs describe inspection, maintenance, & record keeping frequency & procedures.

PTI 119-68B: compliant

This PTI was issued for the continuous ammoniator/granulator operations. Emissions from these are currently controlled by a baghouse followed by a wet scrubber. The initial permit included a cyclone preceding the scrubber. The cyclone did not operate as expected and was converted to a baghouse.

Operators monitor and record the dryer baghouse differential pressure and the scrubber liquid flow and pH. Alarms and lockouts are incorporated into the process flow so that production is stopped when the dryer baghouse is out of established operating parameters.

Based on the records provided and the facility inspection, Agrium was in compliance with the PTI.

PTI 316-77A: compliant

This PTI is associated with Bulk Loadout #4 and associated baghouse. This operation is utilized to load bulk finished product directly to trucks. A dust collector is utilized to control particulate emissions from this process. The PTI contains requirements for PM emissions and VE limits. The emission limits are based on R331 and baghouse sizing. As a final step of the process, Agrium coats the product with a dust suppressant to minimize material loss and product integrity, which minimizes dust generated during transfer operations.

Agrium monitors and records, on an hourly basis, the pressure drop across the baghouse. As part of facility operations, the bags are typically changed out once per year. The permit cites R336.1301 and restricts visible emissions from the fertilizer blender to less than 20% opacity based on a 6-minute average. The equipment was not in operation during the inspection to view opacity. However, the facility performs daily visual checks and audible checks on the pulse jets to ensure they are operating, once per shift.

PM emissions for the 12-month rolling time period ending January 2024 were 0.0075 ton per year (tpy). Special condition (SC) of PTI 316-77A restricts PM emission to 3.1 tpy.

PTI 389-95: compliant

Based on the last inspection, this equipment was thought to be removed. However, the equipment is associated with a fertilizer orbital blender and truck loadout. This appears to be equipment listed as "tower truck loadout and poly bagger". No PM limit is listed in the permit. The permit cites R336.1301 and restricts visible emissions from the fertilizer blender to less than 20% opacity based on a 6-minute average. The equipment was not in operation during the inspection to view opacity.

PTI 390-95: compliant

Based on the last inspection, this equipment was thought to be removed. However, the equipment is associated with the finished product process consisting of a baghouse, cooler, oversize and fine screens, and a dryer and cooler elevator. Agrium monitors and records, on an hourly basis, the pressure drop across the baghouse. As part of facility operations, the bags are typically changed out once per year. PM emissions for the 12-month rolling time period ending January 2024 were 1.57 tpy. SC 14. restricts PM emission to 3.5 tpy. The permit cites R336.1301 and restricts visible emissions from the fertilizer blender to less than 20% opacity based on a 6-minute average. The equipment was not in operation during the inspection to view opacity. The materials collected in the baghouse are placed back into the process since they are product.

PTI 52-18 compliant

This is a general PTI associated with a single anhydrous ammonia storage tank and any associated handling process, nurse tanks or applicator tanks. The nominal tank storage capacity shall not exceed 30,000 gallons.

SC III.2. restricts operation of EU-AMMONIA unless the inspection and maintenance program specified in Appendix A has been implemented and maintained. Copies of the last two inspections of equipment and maintenance performed were requested. The last inspection was performed February 9, 2024 and is completed monthly. Inspections include the lines and hoses associated with the tank as well as the tank and associated shut off/relief valves. According to the inspection checklist the equipment is being maintained.

SC III.3. restricts operation of EU-AMMONIA unless an emergency response plan, to be followed in the event of an emergency, has been approved by the local fire department or county emergency response agency and ins implemented and maintained. Prior to each spring season, the facility shall review this plan with the local fire department or emergency response agency and make any necessary updates. SC VI.2. is the associated monitoring and recordkeeping requirement to record the dates of annual review and approval of the emergency response plan with the local fire department. According to Mr. Hart, the AMP team meets regularly with local emergency response and has taken part in emergency response drills.

SC III.4. requires EU-AMMONIA to be located a minimum of 50 feet from the property line, 300 feet from any existing places of residence or private or public assembly, 500 feet from a school,

apartment building, or institutional occupancy, and not less than 1000 feet from a hospital or nursing home. According to Google Earth imagery, EU-AMMONIA appears to be located on the west side of the facility. There is no residence, schools, apartment building, hospitals or nursing homes near the property. The closest business, ADM, is located north of AMP and is approximately 792 feet northeast of EU-AMMONIA.

SC VII.1. requires the facility to notify the Pollution Emergency Alert System (PEAS) and/or AQD District Supervisor immediately of any abnormal release of anhydrous ammonia from EU-AMMONIA. A review of MACES showed the facility has not made a report in the past 5 years.

PTI 19-15 compliant

PTI 19-15 is an opt-out permit for PM and HAPs. The facility previously registered under R208a and when the rule was rescinded applied for an opt-out permit. There has been questions as to what equipment was evaluated during this permit review and what equipment is covered under this permit. Permits section confirmed the opt-out permit (#19-15) is just an opt-out permit and did not intend to merge the remaining permits into it.

SC I.1. restricts PM emissions to less than 90 tpy. SC VI.2 is the associated monitoring and recordkeeping condition that requires the facility to keep in a satisfactory manner, monthly and 12-month rolling time period PM, PM10 and PM2.5 emission calculations. PM emissions for the 12-month rolling time period ending December 2023 were 28.2 tpy.

SC I.2. restricts PM10 emissions to 75 tpy. SC VI.2 is the associated monitoring and recordkeeping condition that requires the facility to keep in a satisfactory manner, monthly and 12-month rolling time period PM, PM10 and PM2.5 emission calculations. PM10 emissions for the 12-month rolling time period ending December 2023 were 20.9 tpy.

SC I.3. restricts PM2.5 emissions to 10 tpy. SC VI.2 is the associated monitoring and recordkeeping condition that requires the facility to keep in a satisfactory manner, monthly and 12-month rolling time period PM, PM10 and PM2.5 emission calculations. PM2.5 emissions for the 12-month rolling time period ending December 2023 were 1.6 tpy.

SC I.4. restricts individual HAP emissions to less than 9.0 tpy. SC VI.3 is the associated monitoring and recordkeeping condition that requires the facility to keep in a satisfactory manner, monthly and 12-month rolling time period individual and aggregate emission calculations. HAPs associated with the manufacturing portion of the facility are lead and manganese. HAPs associated with combustion sources at the facility, i.e dryer, are lead, hexane and formaldehyde. Hexane had the uppermost individual HAP emissions for the 12-month rolling time period ending January 2024 at 4.06 tpy.

SC I.5. restricts aggregate HAP emissions to less than 22.5 tpy. SC VI.3 is the associated monitoring and recordkeeping condition that requires the facility to keep in a satisfactory manner, monthly and 12-month rolling time period individual and aggregate emission calculations. Aggregated HAP emissions for the 12-month rolling time period ending January 2024 were 4.45 tpy.

II.1. requires the facility to maintain an operation and maintenance (O&M)/malfunction abatement plan (MAP) as described in Rule 911(2), for each emission unit and associated control device.

The plant is separated into production and shipping/loadout activities. Production has a scrubber and raw material baghouse associated with it. Shipping/Loadout has a cooler baghouse, load out baghouse and bagger baghouse associated with it. SC VI.4. requires the facility to monitor and record the parameters for each control device, as specified in the O&M/MAP, once per day, while the process is operating. During the inspection most of the processes were not in operation. The facility typically operates on four, ten hour, days and were only operating the bulk loadout this Friday. The following parameters were observed:

Control Device	Observed	Monitored
Truck Loadout (SVbaghouse#3)	3.0 "W.C.	1.5-10 "W.C.

I reviewed operating parameters for the scrubber, cooler baghouse, and raw material baghouse for the time period January 1, 2023, through December 31, 2023. Records indicate the facility addresses maintenance, i.e. changes bags, adjusts pH, when the monitoring is outside of preferred operating parameters.

Grandfathered (Pre- August 15, 1967): The raw material handling portion of the process is grandfathered. Dry raw materials are transported by an elevator, screened and placed in hoppers prior to being weighed and having liquid raw materials added. Emissions from the raw material elevator & screen are collected and controlled by a baghouse.

The facility appeared to be in compliance with the items reviewed at the time of the inspection.

NAME Dina L. McGowan DATE 3-22-2024 SUPERVISOR Chris Hare