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

B198956799

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:** 12/01/2020
STAFF: Gina McCann	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: PTI 119-68B, 316-77A, 389-95, 390-95, 5-03, 52-18 and 19-15.		
RESOLVED COMPLAINTS:		

Mid-March 2020 the State of Michigan was placed under quarantine. Executive orders from the Department of Human Health and Services (MDHHS) required State of Michigan residents to adhere to social distancing guidelines in response to the Covid-19 pandemic crisis. In lieu of an in-person inspection, EGLE-AQD staff performed an off-site inspection which included a records review.

On December 1, 2020, Mr. Terry Hart and I reviewed records via a Teams Meeting videoconference to determine compliance with existing permits. There are seven 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 The facility obtained an opt-out permit for the facility in 2015 when R208a was rescinded. As a result of this inspection PTI #5-03 will be voided due to replacing equipment and obtaining PTI #52-18, which covers the anhydrous ammonia storage and handling process.

At the time of the inspection there was a question to whether all permits were still active. Permits section confirmed the opt-out permit (#19-15) was just an opt-out permit and did not intend to merge the remaining permits into it. The remaining permits are still active unless it is either exempt or has been removed. Further discussion regarding each PTI is below and verification of equipment should be checked during an on-site 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 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 mostly 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 feed 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.

The 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 then transferred to various locations for blending and loading. Final product is shipped by bulk truck and 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 SOPs for baghouse operations for both production and shipping activities. The SOPs describe inspection, maintenance, & record keeping frequency & procedures.

PTI 119-68B:

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. Verification with existing equipment versus permitted equipment still needs to be addressed during an on-site inspection to determine if R201 was triggered.

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:

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. PM emissions for the 12-month rolling time period ending December 2020 were 0.04 ton per year (tpy). Special condition (SC) of PTI 316-77A restricts PM emission to 3.1 tpy.

PTI 389-95:

Based on conversations with Mr. Hart the equipment associated with this permit was removed from service in 2008. AQD staff still needs to verify actual on-site conditions before requesting to void this PTI.

PTI 390-95:

According to conversations with Mr. Hart the equipment associated with this PTI has been removed. AQD staff still needs to verify the equipment was removed via an on-site inspection.

PTI 5-03:

This is a General PTI associated with the anhydrous ammonia tank used in the process. The equipment was replaced with equipment associated with PTI 52-18. A request to void PTI 5-03 will be sent.

PTI 52-18

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. April 21, 2020 and December 1, 2020 were the last two inspections of the equipment. 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

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.

At the time of the inspection the facility was not keeping records accordingly. The information was housed, yet it took some time to pull the information together. Moving forward, the facility has created a spreadsheet for emissions data.

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 2020 were 28.48 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 2020 were 21.09 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 2020 were 1.59 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. Manganese had the uppermost individual HAP emissions for the 12-month rolling time period ending December 2020 at 1.16 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 December 2020 were 1.18 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, the following parameters were observed:

Control Device	Observed	Monitored
scrubber	pH 9	pH 5-8

scrubber	46 amps	40-50 amps
raw material baghouse	0.3 "W.C.	4-10.0 "W.C.
cooler baghouse	9.5 "W.C.	2-10.0 "W.C.
load out baghouse	2.2 "W.C.	1.5-10 "W.C.
bagger baghouse*	2.5 "W.C.	1.5-10 "W.C.

*Production down at time of inspection

The scrubber pH was being addressed during the inspection. The pH is adjusted manually. The scrubber water is measured once per hour during operation and is adjusted with an acid solution (sulfuric acid) or anhydrous ammonia to keep the pH neutral. Mr. Hart had contacted plant staff and it appeared that they were in the process of adjusting the pH.

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.

Several items still need to be addressed with an on-site follow up inspection. The discussion above provides details regarding permitting items that should be addressed. However, the facility appeared to be in compliance with the items reviewed at the time of the off-site inspection.

NAME _____ DATE 1/29/21 SUPERVISOR _____