

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

P019472885

FACILITY: Clarios APS Production		SRN / ID: P0194
LOCATION: MEADOWBROOK FACILITY, HOLLAND		DISTRICT: Kalamazoo
CITY: HOLLAND		COUNTY: ALLEGAN
CONTACT: Tim Engemann , EHS Site Lead		ACTIVITY DATE: 05/22/2024
STAFF: Cody Yazzie	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On May 22, 2024 Air Quality Division (AQD) staff (Cody Yazzie and Mariah Scott) arrived at 70 West 48th Street, Holland Michigan at 1:00 PM to conduct an unannounced air quality inspection of Clarios APS Production, LLC (hereafter Clarios) SRN (P0194). Staff made initial contact with the office receptionist and stated the purpose of the visit. Tim Engemann, Clarios, Environmental Health and Safety Site Lead, is the environmental contact and Carlos Piggee, Clarios, Plant Manager, provided AQD Staff with an onsite walkthrough and closing discussion in a conference room. A records request was sent to both Mr. Piggee and Mr. Engemann following the inspection to be submitted to AQD Staff.

Clarios is a lithium-ion battery manufacturing facility that produces lithium-ion batteries that are used in the electric vehicles. The facility brings in precoated anode and cathode nodes that then get assembled in Clarios's operations to individual cells and final batteries. In these operations they add a temporary and permanent seal on the battery cells and addition of the electrolyte before final assembly.

Clarios was recently issued PTI No. 4-14B which was meant to modify the old permit to remove discontinued processes. In 2023 Natron Energy Inc. SRN (P1361) started leasing space from Clarios and operates their manufacturing process out of the same building as Clarios. While these two companies operate in the same building, they appear to be two separate stationary sources that do not interact with each other. The battery chemistries are different between the manufacturing operations and the ownerships are held by two separate entities.

Previously Clarios was issued an Opt-Out Permit for VOC and HAPs. With the new issuance of PTI No. 4-14B the facility has been able to provide a PTE of VOC and HAPs calculations that shows the facility is a true minor source for both during the application process. The facility may also be a candidate to be removed from the annual emissions reporting (previously known as MAERS).

Clarios was last inspected by the AQD on July 30, 2020 and appeared to be in Non-compliance at that time with PTI No. 4-14A. Staff asked, and Mr. Engemann stated that the facility does not have any boilers.

Mr. Engemann and Piggee gave staff a tour of the facility. Required personal protective equipment are hard hat, steel toe boots, hearing protection, and safety glasses. Staff observations and review of records provided during and following the inspection are summarized below:

EULIWELDING:

This emission unit is for the welding operations that are controlled and vented into the general in-plant environment. During the inspection it was observed that the facility did have these operations controlled by a Donaldson Torit Dust collection system. This system only exhaust internally to the general in-plant environment. During the inspection it was noted that the differential pressure across the baghouse was noted as 1.3 inches of water.

The emission unit does have a PM emission limit that can only be verified through stack testing. At the time of the inspection the facility has not been required to test the emission unit. The only special requirements of the emission unit are that it is equipped and operated with a dust filtration system and only exhaust to the general in-plant environment.

EULICLEANUP:

This emission unit for the cleaning of the dry clean room and other areas within the plant that use solvent for particle count reduction. The facility tracks three different cleaning solutions. These cleaning solvents include an isopropyl alcohol, NMP, and EM Carbonate cleaning solutions.

The facility has both a VOC emission limit and total clean-up solvent usage per year limit. The permit identifies the VOC emission limit as 2.5 TPY on a 12-month rolling time period. The total clean-up solvent usage per year limit is 5,000 pounds of VOC in the total clean-up solvent.

Special Condition III.1 requires that the facility capture all waste clean-up solvent and store in closed containers. During the inspection Staff did not note any open containers with waste solvent in them.

The facility is required by Special Condition V.1 to determine the VOC content and density of any clean-up solvent using manufacturer's formulation data. The condition also states that upon request of the AQD District Supervisor the facility shall be required to determine the VOC content of any clean up solvent using Method 24. At the time of the inspection there appears to be no request for Method 24 testing.

The facility is maintaining emission and usage records for the total clean up solvent used at the facility. The emission and usage records track an isopropyl alcohol, NMP, and Ethyl methyl carbonate cleaning solvent. The facility has not appeared to utilize the NMP cleaning solvent during the time requested from 2022 – 2024. The facility does appear to be using the correct SDS densities and VOC content from the manufacturer's formulation data. The facility is not maintaining proper 12-month rolling records; however, Staff was able to use the monthly emissions and usage records provide to calculate 12-month rolling emission and usage values. The highest 12-month rolling emission VOC emission calculated was 521.63 pounds per year (0.26 TPY) of VOC emissions in March 2024. The emissions appear to also calculate to the total VOCs used in the total clean-up solvent. Both these are below the respective 5,000 lbs per year and 2.5 TPY limits.

EULIFORMATION:

This emission unit is for the formation operations involving the placement of a temporary seal on the battery cells, followed by the heating and cooling, and replacement of temporary seal with a permanent seal.

The emission unit has a 0.06 TPY (120 lb/year) VOC emission based on a 12-month rolling time period. The facility is required to maintain monthly and 12-month rolling records for this emission unit. The is maintaining monthly emission records that Staff used to calculate their own 12-month rolling records for the facility. The facility should be doing the calculation on their own and made available as required by the permit.

The monthly records showed that EUFORMATION emissions ranged from around 1.09 lbs to 2.46 lbs of VOC per month. This had the 12-month rolling VOC emissions for this emission unit in the range of 22.07 – 23.70 lb/year. This is below the 0.06 TPY limit.

Emissions for EUFORMATION are calculated by using the number of cells produced and the information that each cell is 31 cubic centimeters of gas and 6.03% hydrocarbons by volume. Calculations convert cubic centimeters to feet cubed apply the 6.03% by volume hydrocarbon and multiply by the molecular weight fraction that is VOC. This appears to be the same manner in which emissions are calculated in the permit application process and mentioned in the PTI application.

The facility should be calculating 12-month rolling emissions so that records are easily reviewable.

EULECTROLYTE:

This emission unit is for electrolyte addition and final cell assembly. During this process emissions appear to only be emitted during the electrolyte cylinder connection and disconnection due to quick-connect fittings.

The emission unit has a 1.03 TPY (2,060 lb/year) VOC emission based on a 12-month rolling time period. The facility is required to maintain monthly and 12-month rolling records for this emission unit. The is maintaining monthly emission records that Staff used to calculate their own 12-month rolling records for the facility. The facility should be doing the calculation on their own and made available as required by the permit.

The monthly records showed that electrolyte emissions ranged from around 1.2 lbs to 2.7 lbs of VOC per month. This had the 12-month rolling VOC emissions for this emission unit in the range of 24.8 – 26.62 lb/year. This is well below the 1.03 TPY limit.

Emissions for electrolyte are calculated through assuming a 0.0538 lb VOC per disconnection emission rate. This emission factor is the same one used in the permit application evaluation. This appears to be an appropriate emission factor for the calculation.

The facility should be calculating 12-month rolling emissions so that records are easily reviewable.

Cold Cleaner:

Clarios indicated that they do utilize one cold cleaner in the maintenance area. Staff was provided with the SDS for the Crystal Clean Mineral Spirits 142. It was indicated that Crystal Clean services the unit. The SDS indicated that the solvent is 100% VOC which would make the unit subject to the Part 7 rules. During the inspection there was a sticker with instructions on how to operate the

unit on the outside of the lid. Staff also noted that while it was not in use the lid remained closed. The unit appeared to meet the requirements of Rule 707.

Emergency Generator:

Clarios indicated that they have one emergency generator that is subject to the 40 CFR Part 60 Subpart JJJJ (NSPS for Stationary Spark Ignition Internal Combustion Engines). The facility indicated that the manufacture date of the engine was 11/18/2020 and install date of 12/16/2020. The make and model of the engine was noted Cummins C36-N6.

Staff requested records for maintenance that would include oil changes, filter changes, and belt inspections for the previous 2 years. It was indicated to Staff that maintenance records could not be verified for the previous two years as requested. Clarios did respond indicating that an annual service agreement has been established with the manufacturer and got fully serviced by a Cummins technician on 6/3/2024. Clarios also indicated that it will establish an internal PM schedule to maintain the equipment per the manufacturer's recommendations. This appears to be a violation of 40 CFR 60.4245(a)(2) of the NSPS standard.

Staff requested an annual operation log for calendar years 2022 and 2023. Clarios responded indicating that the emergency generator has been programmed to run for 30 minutes each Monday for self-testing purposes, however they could not verify records of an historical operations run-log. Clarios indicated that they will establish a PM to maintain the generators operational run-log hours and maintain those records onsite. This appears to be a violation of 40 CFR 60.4245(b) of the NSPS standard.

Staff was provided with a picture of the non-resettable hour meter which indicated that the engine had 425.0 hours on the engine.

Conclusion:

At the time of the inspection and based on a review of records obtained during or following the inspection, the facility appears to be in non-compliance with NSPS JJJJ for the recordkeeping issues regarding maintenance and operational hours logged. Staff stated to Mr. Engemann that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 2:30 PM.-CJY

NAME

Cody Yungis

DATE

7/31/24

SUPERVISOR

Maria Kr