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

P008973652

FACILITY: BASF Toda America LLC		SRN / ID: P0089
LOCATION: 4750 West Dickman Rd, BATTLE CREEK		DISTRICT: Kalamazoo
CITY: BATTLE CREEK		COUNTY: CALHOUN
CONTACT: TJ Stewart , EHS Team Leader		ACTIVITY DATE: 08/27/2024
STAFF: Cody Yazzie	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On August 27, 2024 Air Quality Division (AQD) staff (Cody Yazzie) arrived at 4750 West Dickman Road, Battle Creek Michigan at 10:00 AM to conduct an unannounced air quality inspection of BASF Toda America (hereafter BASFTA) SRN (P0089). Staff made initial contact with TJ Stewart, BASFTA, EHS Team Leader, who is the site contact.

BASFTA is a stationary source that produces the cathode portion of the lithium-ion powdered mixture that is used to make the cathodes in lithium-ion batteries. This stationary source is a minor source based on Potential to Emit; however, this facility is subject to 40 CFR Part 63 Subpart VVVVVV – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Area Sources. In this NESHAP 63.11494(e) requires that any source that installed a federally enforceable control device on an affected Chemical Manufacturing Processing Unit (CMPU) is required to obtain a Title V permit if the control device on the affected CMPU is necessary to maintain the source's emissions at area source levels. BASFTA in a new owner audit to the United States Environmental Protection Agency (USEPA) identified that the facility is subject to NESHAP VVVVVV and should have completed and applied for a Title V permit no later than December 21, 2013.

On April 30, 2019 the Kalamazoo District Office received the initial ROP application for BASFTA. In the August 26, 2020 inspection report it outlined a more specific timeline for how BASFTA identified and notified that it was subject to the Title V program and steps taken toward compliance during the time period of August 2018 through August 2020. Since the previous inspection Staff have been working on issuing the initial ROP.

BASFTA was last inspected by the AQD on August 17, 2022 and appeared to be in Compliance at that time with PTI No. 70-10B Staff asked, and Mr. Stewart stated that the facility does not have any boilers

Mr. Stewart gave staff a tour of the facility. Due to safety hazards inside the production area of the facility a full respiration device is required to be worn that needs medical clearance. Staff does not maintain the needed medical clearance, so observations of the production area was not observed. It was also indicated to Staff that BASFTA had not operated since roughly March 2024 due to demand and other outside factors. Staff observations during the inspection included looking at stacks and the dust collectors located outside the production area. Required personal protective equipment for non-production areas are steel toe boots, safety glasses, hard hat, and hearing protection. Staff observations and review of records provided during and following the inspection are summarized below:

EULINE1:

This emission unit includes all Line 1 equipment that handles the raw material, weighing, mixing, filtering, calcination process, processing, and pack out room used in the manufacturing of lithium-ion battery cathode material. This line was installed on December 6, 2010. The modification to converge Line 1 and 2 stacks were apart of the PTI No. 70-10C modification. This project was completed in March 2021.

BASFTA has three bag filters that control the mixing, blending, grinding and transfer processes of the operation. These bag filters are A1BF010, A1BF210, and A1BF020 are then ducted to a common vent header that is shared with EULINE2 for its bag filters that control similar operations for line 2. After these ducts converge, they are sent to a HEPA filter and out the stack.

The EULINE1 calciner has two stacks which are controlled by a Dust collector followed by a HEPA Dust Collector each prior to exiting the stack. The Dust collectors on these lines are designated by DC961 and DC962. These dust collectors and HEPA filters replaced the wet scrubbers that the facility previously used.

EULINE1 has A1BF330 which controls a lithium hydroxide milling unit. This emission unit is permitted under EULINE1.

The packaging operations have a similar set up to the mixing operations previously noted. There are three bag filters that control final processing and packaging. These bag filters are A1BF030, A1BF720, and A1BF650. After the bag filters line 1 converges with the line 2 packaging bag filters exhaust to a vent header. After they all converge, they are ducted and controlled by a HEPA filter before exiting out a single Stack.

BASFTA is required to monitor on a continuous basis and record on a calendar day basis the pressure drop reading for each fabric filter for EULINE1. To check compliance with these recordkeeping requirements Staff asked BASFTA to provide the pressure drop reading of each fabric filter for the following several random dates: 7/17/23, 8/13/23, 9/14/23, 10/25/23, 11/8/23, 12/6/23, 1/12/24, 2/14/24, and 3/5/24. From previous records review BASFTA has indicated for the dates provided that there are times when the monitoring device records a zero value. The facility indicated that this is due to the fact that the equipment operating on a batch basis, therefore there are times when the equipment is not in operation. BASFTA also indicated that all pressure drop values for dry media systems are evaluated for compliance by comparing against a range of 0.1 to 6.0 inches of water column pressure drop.

The facility provided all fabric filter differential pressure records. Staff found these differential pressure records showed that the differential pressures of each fabric filter were maintained in the accepted operation range for the reviewed dates for EULINE1. The provided records appear to record a differential pressure value every 15 seconds. This appears to meet the requirements of Special condition IV.2 as it defines a continuous basis as "an instantaneous data point measured at least one every 15 minutes".

BASFTA is required to maintain visible emission readings for any baghouse that is not using a bag leak detection system (BLDS) at least once per calendar month. The visible emission readings are allowed to be either certified or non-certified. EULINE1 only has one baghouse that does not have the BLDS operating on it. This baghouse is A1-BF-330 as lithium compounds are used exclusively in the section of the process. Lithium compounds are not considered a HAP therefore are not

calculated as a part of metal HAP emissions and do not require the BLDS. The Facility is keeping these observations and only indicate if there is opacity or not as they are not required to be Method 9 opacity readings. The facility appears to be doing these visible emission readings weekly and for all stacks at the facility. Staff was provided records for the time period of January 2023 through July 2024.

EULINE2:

This emission unit includes all Line 2 equipment that handles the raw material, weighing, mixing, filtering, calcination process, processing, and pack out room used in the manufacturing of lithium-ion battery cathode material. This line was installed on September 29, 2014. In the PTI No. 70-10C modification EULINE2 permitted the emissions that are associated with stack and bag filter A2-BF -330. As noted in EULINE1 the modification to converge Line 1 and 2 stacks were a part of the PTI No. 70-10C modification as well. This project was completed in March 2021.

BASFTA has three bag filters that control the mixing, blending, grinding and transfer processes of the operation. These bag filters are A2BF010, A2BF015, and A2BF020 are then ducted to a common vent header that is shared with EULINE1 for its bag filters that control similar operations for line 1. After these ducts converge, they are sent to a HEPA filter and out the stack.

The EULINE2 calciners have four stacks which are controlled by a Dust collector followed by a HEPA Dust Collector each prior to exiting the stack. The Dust collectors on these lines are designated by DC963, DC964, DC965, and DC966. These dust collectors and HEPA filters replaced the wet scrubbers that the facility previously used.

EULINE2 has A2BF330 which controls a lithium hydroxide milling unit. This emission unit previously operated under Rule 290. Since the PTI No. 70-10C modification it has been permitted under EULINE2. The emission unit does not have BLDS for the same reason as EULINE1. Visible emissions observations are required for this stack at least once per calendar month.

The packaging operations have a similar set up to the mixing operations previously noted. There are three bag filters that control final processing and packaging. These bag filters are A2BF030, A2BF720, and A2BF650. After the bag filters line 1 converges with the line 2 packaging bag filters exhaust to a vent header. After they all converge, they are ducted and controlled by a HEPA filter before exiting out a single Stack. These stack convergences along with the scrubber replacement are being addressed in the current PTI modification application.

BASFTA is required to monitor on a continuous basis and record on a calendar day basis the pressure drop reading for each fabric filter for EULINE2. To check compliance with these recordkeeping requirements Staff asked BASFTA to provide the pressure drop reading of each fabric filter for the following several random dates: 7/17/23, 8/13/23, 9/14/23, 10/25/23, 11/8/23, 12/6/23, 1/12/24, 2/14/24, and 3/5/24. From previous records review BASFTA has indicated for the dates provided that there are times when the monitoring device records a zero value. BASFTA also indicated that all pressure drop values for dry media systems are evaluated for compliance by comparing against a range of 0.1 to 6.0 inches of water column pressure drop.

On 2/14/2024 Staff did note that A2BF720 did operate out of range for a period of 3 minutes from (8:16 AM to 8:19 AM). This appeared to happen right after start-up. This anomaly appeared to not last for an extended period of time. Due to the length of time Staff does not think a

violation notice is warranted as the bag filter appeared to quickly return to operation within normal operating range.

BASFTA is required to maintain visible emission readings for any baghouse that is not using a bag leak detection system (BLDS) at least once per calendar month. The visible emission readings are allowed to be either certified or non-certified. EULINE2 only has one baghouse that does not have the BLDS operating on it. This baghouse is A2-BF-330 as lithium compounds are used exclusively in the section of the process. Lithium compounds are not considered a HAP therefore are not calculated as a part of metal HAP emissions and do not require the BLDS. The Facility is keeping these observations and only indicate if there is opacity or not as they are not required to be Method 9 opacity readings. The facility appears to be doing these visible emission readings weekly and for all stacks at the facility. Staff was provided records for the time period of January 2023 through July 2024.

FGLINES:

This flexible group includes special conditions that include both EULINE1 and EULINE2. Special conditions that apply to both emission units are a set of bag leak detection requirements that specify things such as to what concentration the BLDS must be certified to detect PM emissions to, what type of alarm system must be installed, the initial adjustment of the BLDS, and where the BLDS sensors must be installed.

Prior to the PTI No. 70-10C modification the facility was required to calculate and record nickel emissions as a part of the flexible group. The facility is no longer required to maintain or record these emissions. The facility does have hourly PM, PM2.5, and PM10 emission limits that can only be verified through stack testing.

Staff did observe the BLDS during the inspection that was set up for each dust collector. The system continuously monitors the picoAmps registered across the bag filters. The duct collector is determined to be a leaking dust collector when the picoAmps record great than 30 picoAmps for a continuous period of 5-minutes. The facility has also equipped the dust collectors with a weight scale that will notify when the collection bag has reached a certain weight indicating that the collection bag needs to changed out to avoid overflowing.

During the records review Staff noted that on 1/12/2024 A2-BF-015 had on reading that exceeded the 30 picoAmp. On 2/14/2024 Staff also noted that A2-BF-720 had one reading that also exceeded the 30 picoAmp. However, both instances the exceedance was only one 15 second data point which went back to readings around what the values were prior to the anomaly. Both instances appear to be anomalies and did not exceed the 5-minute period used to determine if a bag leak has occurred.

Other NESHAP 6V Records:

The NESHAP 6V requires that the facility follow some management practices that require recordkeeping. These management practices include quarterly inspections with recordkeeping of these inspections and documentation of any equipment malfunctions.

The facility is completing the required inspection quarterly. The inspections for Lines 1 and 2 appear to have been conducted in September 2023, December 2023, February 2024, March 2024,

and June 2024. The inspection included a list of what equipment was inspected along with an indication if there were any leaks detected. If there were repairs or maintenance conducted this is also indicated in the records along with who inspected the equipment. These recordkeeping practices appear to comply with the requirements of 63.11501(c)(i). In section 63.11495(a)(3)(i-v) specify how and when the inspections should be conducted for compliance with NESHAP VVVVVV.

Section 63.11501(c)(1)(vii) of NESHAP VVVVVV outline the recordkeeping requirements for each malfunction of operation process equipment, control devices, recovery devices, or continuous monitoring systems apart of the CMPU subject to the federal regulation. The facility has been reporting any malfunctions under Rule 912 of any issues that are incurred with their control equipment. The most recent Rule 912 submission was on 9/27/21. The facility appears to be recording and reporting malfunctions appropriately as they occur.

Emergency Generator:

BASFTA operates Kohler Diesel emergency generator. The generator has a serial number of SGM32BTD3. The generator is equipped with a non-resettable hour meter. During the inspection the engine appeared to have 191.0 hours on it.

The facility is maintaining an hours of operation log that logs the date, hour meter reading, and for what reason the engine was operate. In 2023 the facility appeared to have operated the engine a total of 13.8 hours. The facility appears to operate the engine once a month for preventive maintenance.

The facility provided maintenance logs for the engine. BASFTA appears to conduct an annual maintenance that includes inspection of fans, belts, hoses, and oil changes. The last two annual maintenance appeared to have been conducted in March of 2023 and March 2024.

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 compliance with PTI No. 70-10C. Staff stated to Mr. Stewart that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 10:45 AM.-CJY

NAME Cody Yuggia DATE 9/19/24 SUPERVISOR