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

P123173352				
FACILITY: Beacon Recycling, Inc.		SRN / ID: P1231		
LOCATION: 1241 E. Keating Avenu	e, MUSKEGON	DISTRICT: Grand Rapids		
CITY: MUSKEGON		COUNTY: MUSKEGON		
CONTACT: Paul Berkenpas, HR ar	nd Safety Manager	ACTIVITY DATE: 08/01/2024		
STAFF: Scott Evans	<b>COMPLIANCE STATUS:</b> Compliance	SOURCE CLASS: MINOR		
SUBJECT: FY24 Inspection				
RESOLVED COMPLAINTS:				

On August 1, 2024, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division staff member Scott Evans (SE) conducted an on-site inspection of the Beacon Recycling facility located at 1241 East Keating Ave. in Muskegon, Michigan, to assess compliance with permit requirements and all other air quality rules and regulations. Beacon Recycling is a recycling facility that operates a shredder used to shred metal scraps including vehicle components. It has one active permit to install (PTI): PTI No. 129-22. This facility is a minor source for all air pollutants.

Upon arrival at the facility, SE conducted a perimeter inspection of the facility exterior. There were no observable odors or visible emissions coming from the facility. SE then entered the facility and was greeted by Paul Berkenpas and Kyle Finch. After a discussion over the purpose of the visit, an inspection of the facility was conducted.

## PTI No. 129-22

This permit has requirements for one emission unit (EU) and one flexible group (FG) as listed below:

- EU001
- FGFACILITY

# <u>EU001</u>

This emission unit consists of a Wendt Corp Model 6090 Scrap Metal Shredder, feed conveyor, ferrous separation process, non-ferrous separation system, and storage processes. Emissions from the unit are controlled by a water injection system installed in the shredder. This equipment was installed and first operational on March 21, 2024 and has not yet been installed for a full calendar year. As such, annual limits cannot be accurately assessed. Records were provided for the time that the equipment has been in operation so that monthly and daily requirements could be assessed.

This unit has the following emission limits:

<sup>a</sup> Compliance with this limit will be demonstrated by multiplying the emission factor in SC VI.6, 7, 8, or 9 (or an alternate emission factor approved by the AQD District Supervisor) by the throughput.

<sup>b</sup> Calculated on a dry gas basis.

<sup>3</sup> This limit applies until an exhaust hood and stack, meeting the requirements of SC VIII.1, is installed.

<sup>4</sup> This limit applies on and after the installation of an exhaust hood and stack that meets the requirements of SC VIII.1.

The compliance determinations above were determined using the records provided, as is discussed below. It is important to note that no hood system or stack has been installed. As such, only the applicable limits in the table above have been assessed for compliance.

The tenth limit states that visible emissions from the shredder shall not exceed 20% opacity over any 6-minute average until an exhaust hood and stack are installed. During the inspection, short instances of visible emissions could be seen coming from the unit. Much of the observed emissions were steam coming from the water injection hitting hot metal during operation of the equipment. Even so, instances of visible emissions were not in excess of the 20% opacity for any 6-minute average during observation. Facility staff was able to provide records of visible emissions observations conducted as required (discussed further below) and none demonstrated an excess of the opacity requirement. The facility was advised to continue keeping a close eye on the operation of the equipment and to manage operations as necessary to ensure no exceedances occur moving forward. At this time, the facility appears to be compliant with the requirement.

The eleventh limit states that, once the hood is installed, visible emissions from the hood shall not exceed 10% opacity over any 6-minute average time period. At the time of the inspection the facility had not yet installed a hood system and so the requirement is not currently applicable.

Limits twelve, thirteen, and fourteen state that visible emissions from the ferrous separation portion, the non-ferrous separation portion, and conveyor portions of the shredder shall not exceed 10% opacity during any six-minute average period. During the inspection, small volumes of VE could be seen coming from the various portions. However, no portions exceeded 10% for any six-minute period. Records provided, as discussed below, verify that no instances of excess visible emissions have occurred since startup of the equipment.

This unit has seven process restrictions. Before the installation of a hood system, the facility is limited to no more than 190 tons of material processed per calendar day, no more than 69,350 tons of material per 12-month rolling annual period, and no more than 20,805 tons of auto scrap material processed per 12-month rolling annual period. After the installation of a hood, the facility may not process more than 395 tons of material per calendar day, 100,000 tons of material per 12-month rolling annual period, and no more than 30,000 tons of auto scrap material per 12-month rolling annual period, and no more than 30,000 tons of auto scrap material per 12-month rolling annual period. The highest daily materials processed limit was 188 tons on July 15, 2024, with a total of 3093 tons processed in total through July, 2024. 287 tons of auto material was processed in July of 2024. Though the equipment hasn't operated for a full 12 months at this time, the facility is in compliance with daily processing limits and is operating in such a way that with similar processing rates for twelve months will be within compliance of annual limits.

This unit may not process any asbestos material, batteries, or gas tanks with the unit. During the inspection this was discussed, and the facility is aware of the limitation and does not shred any of the restricted materials. Regular inspections of material delivered to the facility are conducted to ensure no restricted materials are processed.

This unit has ten operational restrictions. The first states that the unit shall not operate unless the water injection system is installed and operational. During the inspection the water injection could be seen applying water to the unit during operation as evidenced by the release of steam from the unit while operating. Additionally, flow rate monitors are available for observation during use and records are recorded to ensure proper operation. Records of daily water flow were provided by the facility.

The next three requirements state that the facility shall remove and dispose of fluids, freon or other CFCs/HCFCs, and mercury-containing devices from materials to be shredded. This was discussed and the facility demonstrated separate removal and storage procedures for these materials prior to sending items to the shredder.

The fifth requirement states that non-metal and automotive shredder residue shall be separated and staged in volumes no greater than 2,000 cubic yards at any time. Separated piles of waste and residue could be seen during the inspection and compliant with this requirement.

The sixth states that all fluids, non-metals, and wastes shall be disposed of appropriately. The process of separation and disposal was discussed and appeared to meet the requirement during the inspection. Separate piles of non-metal materials and wastes could be seen for separate disposal. Any liquids are removed and disposed of properly before processing of materials.

The remaining requirements state that operation of the unit cannot commence until appropriate Materials Management Plans, Fire Prevention Plans, Fugitive Dust Plans, and Malfunction Abatement Plans acceptable to the AQD have been submitted. All documents have been submitted to the AQD as required and were present on site to ensure proper adherence and compliance.

This unit has two design parameters. The first states that the facility shall have properly installed, maintained, and operating devices to monitor water injection rate and shredder motor current on a continuous basis. During the inspections, these monitors could be seen as installed and functional. Records of this monitoring are kept by the facility and were provided upon request.

The second requirement is that the permittee shall not operate the unit unless all conveyors that carry dry, non-metal and automotive residue are covered and a proper discharge chute at the end of the conveyor is installed. During the inspection, both covers and chutes were observed and appeared to be properly installed and functional.

This unit has four testing requirements. The first states that the facility shall verify visible emissions from the shredder, ferrous separation, and non-ferrous portions of the unit within 180 days of shredder trial operation. While the facility has conducted regular, internal, visible emissions observations, they have yet to verify visible emissions through an outside, third party as is expected by the requirement. This has been discussed with the facility and they will make arrangements for appropriate testing within the time required by the permit condition.

The second requirement states that the facility shall verify PM2.5, VOC, lead, and/or mercury emission factors if requested to do so by the AQD. At the time of the inspection all equipment appeared to be properly installed and functional with no signs of excess emissions. Additionally, the facility appeared to be following all procedures in place to minimize presence and release of these pollutants. Therefore, currently, it does not appear

to be necessary for the facility to conduct such tests. The facility was advised that this can change and that they may still be required to conduct verification tests in the future.

The third requirement states that the facility shall verify PM emission rates from the stack after the hood and stack are installed if requested to do so by the AQD. No hood or stack system has been installed at this time and so no testing is required at this time.

The fourth requirement states that the facility shall verify lead emission rates from the hood and stack once these components have been installed and within 90 days of that installation. No hood or stack system has been installed at this time and so no testing is required at this time.

This unit has twelve recordkeeping requirements. The first requires that all records for the previous month be ready and in an acceptable format by the end of the calendar month. The facility was able to provide records as required when requested.

The second requirements states that daily records of water injection rate and shredder motor current be kept. These records were reviewed upon request and demonstrated compliance with this requirement as well as the requirements previously discussed that monitors be installed to continuously monitor these parameters.

The third and fourth requirements state that weekly observations for visible emissions from the shredder, ferrous separation, and non-ferrous portions of the unit shall be conducted and recorded. Record of these observations were provided on site during the inspection to verify compliance. Copies were not requested at this time but can be provided if needed.

The fifth requirement states that records of total amount of material processed in tons per day, month, and 12-month rolling time periods be maintained by the facility. These records have been properly maintained by the facility and were provided upon request. Copies of these records are included with this inspection report.

The sixth requirement states that the facility shall maintain monthly records that verify monthly and 12-month rolling emission rates of VOCs using the included emission factor. These records were provided by the facility and were used to verify compliance with VOC emission limits as discussed previously in this report. Copies of these records are included with this inspection report.

The seventh requirement states that the facility shall maintain daily records of PM2.5 emissions. These records were provided by the facility and were used to verify compliance with PM2.5 emission limits as discussed previously in this report. Copies of these records are included with this inspection report.

The eighth requirement states that the facility shall maintain monthly records that verify monthly and 12-month rolling emission rates of lead using the included emission factor. These records were provided by the facility and were used to verify compliance with lead emission limits as discussed previously in this report. Copies of these records are included with this inspection report.

The ninth requirement states that the facility shall maintain monthly records that verify monthly and 12-month rolling emission rates of mercury using the included emission factor. These records were provided by the facility and were used to verify compliance with

mercury emission limits as discussed previously in this report. Copies of these records are included with this inspection report.

The tenth requirement states that the facility shall keep daily records of the total volume of non-metal and fluff staged. These records were available upon request during the inspection. Copies are not included with this report but can be provided by the facility if requested in the future.

The eleventh and twelfth requirements state that the facility must record all fire prevention and fugitive dust prevention activities as required by the previously discussed control plans provided by the facility. During the inspection, records of such activities were provided for review. Copies are not included with this report but can be provided by the facility if requested in the future.

This unit has two reporting requirements. These requirements state that the facility has thirty days to inform the AQD upon completion of the installation of the shredder unit and the hood and stack components. The facility had previously informed the AQD of the installation of the shredder unit as required. At the time of the inspection no hood or stack had been installed, so no notification is expected yet.

This unit has one final requirement that states the facility has eighteen months after the installation of the shredder to install the associated hood and stack. Since the equipment was first installed and operated on March 21, 2024, the stack will be required to be installed for operation by September 21, 2025. Currently the facility has not installed a hood or stack. As the equipment has only been installed and operational for a few months, this is acceptable. It was discussed that there is a time limit for installation of a hood and stack system and the facility acknowledged the limit, expressing intent to meet the permitted deadline.

## **FGFACILITY**

This flexible group applies source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

Pollutant	Limit	Time Period / Operating Scenario	Highest Recorded	Compliance Determination
1. Hexavalent chromium (CAS No. 18540-29-9)	0.31 lb/yr <sup>1,3</sup>	12-month rolling time period as determined at the end of each calendar month	0.014 lbs July 2024 Total	Undetermined
2. Hexavalent chromium (CAS No. 18540-29-9)	0.45 lb/yr <sup>1.4</sup>	12-month rolling time period as determined at the end of each calendar month	NA	NA

This group has the following emission limits:

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b). <sup>3</sup> This limit applies until an exhaust hood and stack, meeting the requirements of SC VIII.1, is installed. <sup>4</sup> This limit applies on and after the installation of an exhaust hood and stack that meets the requirements of SC VIII.1 in EU001.

As no hood or stack system has been installed, only the first of the above limits is currently applicable. Compliance has been assessed accordingly. The above compliance determinations were made using records provided by the facility. These records are discussed later in this report during the discussion of recordkeeping requirements.

This group has one testing requirement which states that the hexavalent chromium emission factor shall be determined from the stack portion of EU001 once the hood and stack have been installed. Since the hood and stack have not yet been installed this requirement is currently not applicable.

This group has two recordkeeping requirements. The first requires that all records for the previous month be ready and in an acceptable format by the end of the calendar month. The facility was able to provide records as required when requested.

The second states that the facility must keep monthly records of the following factors:

- Tons of hexavalent chromium containing material processed.
- Hexavalent chromium emission factor.
- · Monthly Hexavalent chromium emissions.
- 12-month rolling annual hexavalent chromium emissions.

The facility was able to provide these records to the AQD. These records were used to make the previously discussed emissions compliance determinations. Copies of these records are included with this report.

#### **Exempt Processes**

This facility has equipment to conduct portable torch cutting operations on site. Historically, this has been done in accordance with air permitting exemption Rule 285(2)(i). This was discussed and the facility was advised that torch cutting for recycling purposes such as making materials smaller for processing in the shredder would not quality as exempt unless strictly conducted in the facility warehouse interior and with either no externally vented emissions or appropriately filtered emissions. The facility acknowledged these limitations and stated that, at this time, unless adjustments are made to their facility interior to facilitate torch cutting, they would use mechanical shearing for processing materials prior to entry into the shredder. No violations of the exemption rules were observed during the inspection and, at this time, there does not appear to be any violation in facility operations related to torch cutting.

## Conclusion

At the conclusion of this inspection, the facility appeared to be compliant with all permitted requirements as well as all other applicable air quality rules and regulations.

NAME Scott Wans DATE 9/3/2024 SUPERVISOR HH