

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

P120674090

FACILITY: Zwemmer Roto-Z RNG, LLC		SRN / ID: P1206
LOCATION: 3364 Mushroom Road, SNOVER		DISTRICT: Bay City
CITY: SNOVER		COUNTY: SANILAC
CONTACT: Patrick Troy ,		ACTIVITY DATE: 09/10/2024
STAFF: Haley Willman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: On-Site Inspection PTI 47-21		
RESOLVED COMPLAINTS:		

A scheduled inspection was completed by Air Quality Division (AQD) staff Adam Shaffer (AS) and Haley Willman (HW) of the Zwemmer Roto-Z RNG (Roto-Z) site located at Roto-Z Dairy Farm in Snover, Michigan. Applicable records were requested on September 6, 2024, to verify compliance with Permit to Install (PTI) No. 47-21. An in-person inspection to verify onsite compliance was completed by AS on September 10, 2024. The inspection report summarizing the findings of the onsite inspection and records review was completed by HW.

### **Facility Description**

Roto-Z is a renewable gas processing facility using an anerobic digester that processes manure from the Roto-Z Dairy Farm into renewable natural gas. This was the first inspection of the Roto-Z site since their PTI was approved on August 4, 2021. The facility is a true minor source for all criteria pollutants and hazardous air pollutants (HAPs) and is in operation under PTI No. 47-21.

### **Compliance Evaluation**

A request was sent to Mr. Patrick Troy (PT), Sr Project Manager, of REV LNG on September 6, 2024, for records required by PTI No. 47-21. The onsite inspection was completed on September 10, 2024. AQD staff AS, HW, Erin Sheridan, and Emily Crimmins arrived at the facility at approximately 10:42am. Weather conditions at the time of the inspection were sunny skies and temperatures in the low 70's degrees Fahrenheit. The inspection was led by AS and site-specific questions were answered by PT and Charles, the site operator. Follow up questions were answered by PT and Danielle Piontkowski (DP), environmental consultant.

During the on-site inspection the site had not been operational for two days as part of a scheduled installation of a new emergency generator. This installation caused a sitewide power outage (only critical portions remained operational) for two days with a projection to regain power the day of the inspection.

### **PTI No. 47-21**

### **EUGCU**

This emission unit is a gas cleaning and upgrading unit that includes an activated carbon filter pre-treatment and three stage membrane. This unit was observed during the inspection, but was not operating during the inspection and no on-site data was collected.

### **Records**

As mentioned above this was the first inspection since their PTI was approved. At the time of the inspection the site has not been operational for a full 12 months and records only date back to December 2023.

Per Special Condition (SC) VI.1, the permittee shall keep, in satisfactory manner, all records related to, or as required by, the PM/MAP. After reviewing their PM/MAP and records provided, Roto-Z appeared to be in compliance.

Per SC VI.2, the permittee shall keep continuous records of the H<sub>2</sub>S concentration in the vent gas exiting EUGCU. Records provided indicated these records were kept in a satisfactory manner. The records provided appear to indicate that the limit of 10ppmv was not exceeded.

Per SC VI.3, the permittee shall keep continuous records of the volumetric flow rate of digester biogas vented from EUGCU. Records provided indicated they were kept in a satisfactory manner. The records provided appear to show the maximum rate of 230 standard cubic feet per minute was not exceeded.

### *Onsite Observations*

Per SC IV.1, the permittee shall install, calibrate, maintain, and operate a device to monitor the H<sub>2</sub>S content at the outlet of the activated carbon filters continuously. The monitor was observed during the inspection, however it was not operational due to a lack of power.

Per SC IV.2, the permittee shall install, calibrate, maintain, and operate a device to monitor and record the volumetric flow rate of digester biogas vented from EUGCU continuously. At the time of the inspection this device was not installed. Roto-Z stated this device was not present due to IT issues.

Per SC IV. 2, the permittee shall install, calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the volumetric flow rate of digester biogas vented from EUGCU, on a continuous basis. The facility did not have a monitor installed for volumetric flow rate of digester biogas vented from EUGCU. It was confirmed that the data requested for Special Condition (SC) IV.2 was calculated offsite and providable for the records request.

During follow-up conversations staff discovered the use of the term digester biogas in the PTI is incorrectly used. The EUGCU does not vent biogas. Biogas is trucked offsite to be injected into the pipeline. The facility is venting tail gas from the EUGCU and uses a mass balance approach to determine the volumetric flow rate. Alarms to alert staff of the H<sub>2</sub>S ppmv levels set by the RevLNG & consulting staff. A monitor is not on site. The calculation below is how the tailgas flowrate is calculated.

$$\frac{\text{Inlet to upgrader (SCFM)}}{\text{Inlet to upgrader \% CH}_4} - \frac{\text{Outlet to upgrader (SCFM)}}{\text{Outlet to upgrader \% CH}_4} - \frac{\text{Tail gas (SCFM)}}{\text{Tail gas \% CH}_4} = 0$$

SC IV.2 should have used the term tail gas in place of digester biogas. The intent was to have the facility monitor volumetric flow of the tail gas. The facility is aware of the incorrect use of the language and is calculating the tail gas flow rate. In lieu of sending a violation notice the facility was encouraged to submit a permit application to correct.

The stack for EUGCU was observed during the inspection and though the dimensions were not measured appeared to be consistent with what is listed in PTI No. 47-21.

## **EUFLARE**

This emission unit is used as a backup for EUGCU. The flare is capable of burning up to 900 scfm. This unit was observed during the inspection, but was not operating during the inspection and no on-site data was collected.

### *Records*

As mentioned above this was the first inspection since their PTI was approved. At the time of the inspection the site has not been operational for a full 12 months and records only date back to December 2023.

Per SC VI.2, the permittee shall keep, in satisfactory manner, all records related to, or as required by, the PM/MAP. After reviewing their PM/MAP and records provided, Roto-Z appeared to be in compliance.

Per SC VI.3, the permittee shall keep, in a satisfactory manner, a log of the monthly and 12 month rolling operating hours of EUFLARE. At the time of the inspection, the flare has operated for a total of 3,918.8 hours across nine months and does not exceed their limit of 4,860 hours per 12-month rolling time period.

Per SC VI.4, the permittee shall keep, in a satisfactory manner, daily records of the H<sub>2</sub>S content of the digester biogas routed to EUFLARE, for each day the flare is operated. Records provided showed the company is keeping track of daily H<sub>2</sub>S records.

Per SC VI.5, the permittee shall keep, in a satisfactory manner, the number of days where the H<sub>2</sub>S content of the digester biogas is greater than 500ppmv on a monthly and 12-month rolling time period. Records provided appeared to be in compliance and at the time of the inspection the flare had 11.7 days where the H<sub>2</sub>S > 500ppmv and does not exceed their maximum of 325 days per 12-month rolling time period.

Per SC VI.6, the permittee shall keep, in a satisfactory manner, records of the volumetric flow rate of digester biogas routed to EUFLARE. Records provided appeared to be in compliance as they never went above their limit of 900 standard cubic feet per minute.

Per SC VI.7, the permittee shall keep, in a satisfactory manner, records of the total volume (MMscf) digester biogas burned in EUFLARE on a monthly and 12-month rolling time period. Records provided appeared to be in compliance.

Per SC VI.8, the permittee shall keep, in a satisfactory manner, records of monthly and 12-month rolling total SO<sub>2</sub> mass emissions for EUFLARE. At the time of the inspection, the current total was 0.41 tons and does not exceed their limit of 30.03 tons per year.

### *Onsite Observations*

Per SC IV.1, the permittee shall install, calibrate, maintain, and operate a device to monitor and record the volumetric flow rate of digester gas burned in EUFLARE. At the time of the inspection this monitor was observed but was not operating.

Per SC IV.2, the permittee shall install, calibrate, maintain, and operate a device to monitor the H<sub>2</sub>S content of digester gas sent to EUFLARE. The monitor was observed during the inspection; however, it was not operational due to a lack of power.

The stack for EUFLARE was observed during the inspection and appeared to be in compliance at the time of the inspection.

### **Additional Observations**

There were two 3.5 MMBtu/hr natural gas boilers onsite and have regular maintenance and are exempt per Rule 282(2)(b)(i). A 9.57 MMBtu/hr natural gas-fired emergency engine was also observed onsite and is exempt per Rule 285(2)(g).

Used carbon filters from EUGCU were observed onsite and were planned to be disposed of at a landfill.

Charles also stated the staff completes daily perimeter walks, wearing an H<sub>2</sub>S monitor to ensure site operations are running properly and H<sub>2</sub>S concentrations are below their limit.

### **Conclusion**

Based on the observations made and records reviewed, Roto-Z is in compliance with PTI No. 47-21.

NAME Haley Willman

DATE 11/01/2024

SUPERVISOR 