Barton & Loguidice

May 7, 2024

Gina McCann
MI Department of Environment, Great Lakes, and Energy Air Quality Division
Bay City District Office, Air Quality Division
401 Ketchum Street, Suite B
Bay City, MI 48708

Re: Goma RNG, LLC (PTI 49-21)
Response to Violation Notice

File: 2348.010.003

Dear Ms. McCann:

Barton & Loguidice (B&L), on behalf of Goma RNG, LLC, is providing this response to the Violation Notice received by the facility on April 29th. As specified in this Notice, the facility violated the 5,000 ppm H2S limit for the flare (EUFLARE) on three occasions and violated General Condition 7 of its permit regarding reporting of permit exceedances.

The facility experienced H_2S exceedances that occurred for more than two hours on October 2nd, 7th, and 11th of 2023. As was explained during a Zoom call with Mr. Chris Hare and yourself on March 12th, these exceedances were reported late due to a delay in receiving H_2S data from the site due to issues with site PLC and database management system connectivity problems. These data were not received by B&L until March 4th, at which time the H_2S exceedances were discovered. EGLE was contacted upon discovery of these exceedances to set up a call to discuss what steps should be taken to report these exceedances. These exceedances were due to the site's initial startup phase, and no exceedances have occurred since the last reported exceedance. Explanations of these exceedances and their causes are explained in more detail as follows.

The following H_2S exceedances occurred for more than two hours:

- October 2 – 12:15 PM to 2:30 PM – Average H_2S content of 6,253 ppm, average flare flow rate of 101 SCFM.
- October 7 – 11:45 AM to 2:15 PM – Average H_2S content of 6,690 ppm, average flare flow rate of 154 SCFM.
- October 11 – 9:45 AM to 11:45 AM – Average H_2S content of 6,945 ppm, average flare flow rate of 159 SCFM.

During these exceedances, the site emitted a total of 0.002 tons of SO_2 which is well below its annual limit of 30.3 tons per year (0.01% of the annual SO_2 limit). B&L conducted modelling to determine the maximum amount of H_2S the facility can emit without violating the NAAQS, particularly the 1-hour NAAQS, and determined that the site can emit up to 7,975 ppm of H_2S for 40 days without violating these standards. Thus, the site remained below the NAAQS standards during all of these exceedance periods noted above.

These models were conducted using the specifications of equipment actually installed at the facility. Since construction of the facility, B&L has learned that there are some discrepancies between what was requested in the air permit application for the site and what equipment was actually installed. Upon confirmation of actual equipment installed, updated modelling was conducted which uses the actual stack height of the flare on-site (21.5 feet); previous modelling submitted to the Department used a stack height of 20 feet, which is what the site applied and was permitted for. Additionally, the installed flare has a capacity of 400 scfm as opposed to the 900 scfm flare that was applied for in the original application. These updated modelling results indicate that the site can emit up to 7,975 ppm of H_2S at the flare's maximum capacity without violating the 1-hour SO_2 NAAQS. B&L will be submitting a permit modification to correct for the actual equipment installed at the facility so that these specifications are accurately recorded in the facility's permit.

Cause For Exceedances

There is no single "cause" for the exceedances noted above. Anaerobic digester systems are a somewhat different process as there is no "on/off" switch, and the production process includes a balance of input materials, heat, moisture, and time. As such, digester systems require a significant time for startup to achieve the system balance needed for long-term operation. The typical start-up period for RNG facilities can be around six months while the facilities are refining control equipment and moving toward steady-state operations. The above reported exceedances are a result of the site still being in its start-up phase, and these exceedances occurred upon flare start-up. Since initial flare operation, the site refined its ferric chloride and oxygen injection systems which are utilized to reduce H_2S in the biogas and has had no H_2S exceedances since October of 2023.

As discussed during our Zoom call, the Rule 912 report was submitted late due to a delay in receiving the H_2S data for the facility. The site has been monitoring and recording data since its first day of operation using a local PLC. However, B&L receives these data using an online platform which transmits and aggregates these data. While B&L has had access to all other site data, we have not had access to the H_2S data until March 4th of 2024. Thus, immediately upon receiving these data on March 4th, B&L checked for exceedances that may have occurred at the site. As several were noted, as described above, B&L contacted EGLE to set up a Zoom call to discuss how and what to submit as a notification of these exceedances.

Corrective Actions

As previously mentioned, digester systems require a significant time to achieve balance upon startup. However, once balance is achieved, the facility normally will operate with little or no use of the flare, and all gas will be sent to the upgrader and shipped off-site as natural gas. Use of the flare during startup is only on an as-needed basis while the site is working to achieve a balanced state operation. Therefore, the facility operations normally strive to minimize use of the flare, and thereby minimize the associated emissions. As the digester system and gas upgrading system move out of "startup" mode and into normal operation, the flare will only be used occasionally. Similarly, as balance is achieved, H_2S levels will be reduced to steady-state. It is also important to note that although the flare has a design capacity of 400 scfm, site operations only run the flare at the flow rate needed for control of gas being generated, and in all of the periods of exceedance noted above, the flare was operating at a much lower flow rate than the design capacity. As mentioned previously, the facility has not experienced any H_2S

exceedances since those reported to EGLE and discussed in this Violation Notice. This is because the facility is out of its initial startup period and has thus moved toward steady-state operations. The refinement of the ferric chloride and oxygen injection systems also ensures that in the event of any future start-up of the system, the H_2S levels can be maintained below the permit limit to ensure no exceedances occur.

Further, the issue in receiving H_2S data for the facility has been resolved; since H_2S data began transmitting to B&L on March 4th, B&L now receives and reviews all facility emissions data daily. Thus, going forward, any future H_2S exceedances will be reported within the appropriate timeframe specified in the facility's permit and abiding by Rule 912 reporting requirements.

If you have any questions or would like additional information, please feel free to contact me or Pat Troy, Sr. Project Manager and Emergency Coordinator for the Goma RNG facility.

Sincerely,

BARTON & LOGUIDICE, D.P.C.

William F. Doebler IV, QEP
Associate

DP/jms

cc: Spencer Turan, RevLNG
Pat Troy, RevLNG
Jenine Camilleri, EGLE