

June 9, 2022

Scott Evans

Department of Environment, Great Lakes, and Energy

Air Quality Division

350 Ottawa Avenue NW – Unit 10

Grand Rapids, MI 49503



RE: Written Response to Violation Notice (VN) of 5/20/2022, American Chemical Solutions, LLC (ACS) Permit No. 17-19 (SNR B4302)

Mr. Evans:

As requested, the following is a written response by American Chemical Solutions (ACS) to the VN of May 20, 2022 concerning our facility at 2406 Roberts Street in Muskegon, Michigan (the "Facility"). The response addresses the specific items which EGLE requested in the VN as noted below. Please include this letter in the administrative record for the Facility and the May 20, 2022 VN.

Dates the Violations Occurred

PTI 17-19, EU-WWStripper, Special Condition I.1

VOC emissions from EU-WWStripper may have exceeded the VOC permit limit of 5.0 tons per year (tpy) no earlier than the month of December 2021. We note that this date is inferred based on the calculated 12-month rolling average VOC emissions from the emission unit utilizing stack test results from February 2020.

PTI 17-19, FGFacility, Special Condition I.1

Hazardous Air Pollutant (HAP) emissions from the Flexible Group, FGFacility may have exceeded the individual HAP limit of 8.9 tpy no earlier than the month of May 2021. We note that this date is inferred based on the 12-month rolling average emissions from the flexible group and the stack test results from February 2020.

Rule 210(1)

Based on the recent stack test results, the Facility may have become a major source of HAPs in May 2021, with Methanol emissions exceeding 10 tpy. We note that this date is inferred based on the 12-month rolling average emissions for methanol using stack test results from February of 2020.

Explanation of Causes and Duration of the Violations

Emission estimates used in the development of the 1/19/2019 permit application for the Facility did not predict the amount of methanol emissions measured during the 2020 and 2021

stack sampling. ACS' initial PTI emissions estimates were calculated based on previous operating conditions and assumptions. Primarily the assumption that methanol, being soluble in water, would not easily strip out of the wastewater stream in the stripper towers, but instead stay in the wastewater discharge.

In February 2020, a stack test was performed indicating methanol emissions of 8.52 pounds per hour (lbs/hr). Conditions during the stack test were designed to represent maximum process operating rate conditions. There was also some trouble with freezing and low tank levels during the testing that could have contributed to uncertainty in the results.

While working with EGLE AQD in an effort to verify initial stack sampling results and develop accurate emission estimates, an additional stack sampling event was suggested and completed on 11/10/2021. Again, operating conditions during the test were set up to represent maximum process operating rate conditions. The results indicated methanol emissions of 23.42 lbs/hr.

Using the values from stack sampling to estimate emissions from EU-WWStripper suggests that certain permit limits may have been exceeded, as described above. While it is believed that these emission rates could be indicative of worst-case conditions and represent the emission unit's potential to emit, there remains concern that these testing results overestimate actual emissions. The Facility is evaluating operating scenarios to determine the impact to estimating actual emissions.

Whether the Violations are On-Going

Using the emission factors from the two stack sampling events as the basis for calculating emissions from the stripper towers would appear to demonstrate that estimates of ongoing emissions may exceed permit limits, as described above.

Summary of Actions Taken and Proposed to Correct Violations and Dates

Actions Taken / Historical Chronology

- In February 2020, original stack testing was completed in accordance with permit requirements of Permit to Install 17-19. Stack testing was completed during initial shake down of equipment when the Facility was not fully operational.
- On 4/7/2020, stack testing results were submitted to EGLE.
- On 7/21/2021, EGLE conducted an inspection of the Facility and provided to ACS a Request for Information (RFI) regarding Air Permit Records Request.
- On 8/5/2021, ACS provided to EGLE the records requested in the RFI.
- On 8/18/2021, EGLE requested additional information regarding the ACS RFI response.
- On 8/23/2021, ACS met with EGLE to discuss the 8/18/2021 EGLE email focusing on the validity and confidence levels associated with the February 2020 emission factors and path forward to verifying results and/or prepare ROP application.

- On 9/3/2021, EGLE issued VN regarding permit exceedances based on the emission factors using data from the February 2020 stack testing.
- On 10/5/2021, ERM submitted a stack sampling plan to EGLE on behalf of ACS.
- On 10/12/2021, ERM fielded questions from EGLE regarding stack sampling plan, specifically regarding Method 18 (the Method used to determine Methanol emission levels).
- On 11/5/2021, EGLE approved stack sampling plan, verifying sampling protocol and conditions.
- A second round of stack sampling was conducted on 11/10/2021 in an effort to develop more representative emission factors.
- From 1/21/2022 to 3/16/2022 the Facility had multiple communications with EGLE, ERM and Stack Test Group to get final report issued.
- On 4/14/2022, EGLE, ERM and ACS held a teleconference to discuss sampling results, review operating conditions during the sampling and discuss potential factors that may impact stack testing results.
- On 5/20/2022, EGLE issued VN for permit exceedances based on stack testing emission factors.
- On 6/1/2022, ACS met with EGLE to discuss path forward to address 5/20/2022 VN.
- ACS submitted this response to the 5/20/2022 VN.

Proposed Actions

- **Process engineering review.** ACS is currently conducting a desk top review of emission estimates from EU-WWStripper and FG-Facility to validate models and compare to conditions during testing. This effort is on-going.
- **Control systems trials.** To mitigate and reduce emissions, the Facility will conduct additional wastewater sampling for methanol around the stripper towers to try to determine effects of water flow rates and air flow through the tower on methanol stripping efficiency. Our objective is to properly balance the stripper tower operations to minimize methanol air emissions. We plan to conduct trials and collect data for the next 2 months (June and July 2022).
- **Regulatory.** The Facility will submit two permit applications to EGLE: (a) a new PTI for the Facility to address necessary revisions to VOC and HAP emission rates; and (b) a Title V ROP application to properly account for individual HAP emissions. The emission calculations review and update mentioned above are integral parts of the permit application process and these efforts are ongoing. The focus of these efforts will be to develop emission factors that represent actual emission rates.

Preventive Actions

To reduce emissions in the short term, the Facility is currently evaluating stripper tower operating conditions that could minimize methanol emissions at the source. As noted above in the Proposed Actions section, this involves changing operating parameters and evaluating

concentrations in wastewater. We are evaluating whether stripping less aggressively will lower methanol emission rates at the stack.

Permitting the facility through a new PTI and Title V ROP will result in permit limits that are more reflective of plant operations and will provide achievable limits resulting in permit compliance going forward.

Thank you for your consideration in this matter. Please feel free to contact me should you have questions or require additional information.

Sincerely,



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ACS, LLC

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