

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

B430259654

<b>FACILITY:</b> American Chemical Solutions, LLC		<b>SRN / ID:</b> B4302
<b>LOCATION:</b> 2406 Roberts Street, MUSKEGON		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> MUSKEGON		<b>COUNTY:</b> MUSKEGON
<b>CONTACT:</b> Bob Brenton , Regulatory Affairs Director		<b>ACTIVITY DATE:</b> 07/21/2021
<b>STAFF:</b> Scott Evans	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> In person air quality compliance inspection. Two violations identified and cited.		
<b>RESOLVED COMPLAINTS:</b>		

### Introduction

On Wednesday, July 21, 2021, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an air quality inspection of the American Chemical Solutions LLC (ACS) facility located at 2406 Roberts Street in Muskegon, Michigan to assess compliance with air quality regulations. This inspection was an unannounced, on-site inspection.

ACS is a chemical production facility that manufactures various chemical products including cleaning sanitizers and inks. The production of these is achieved through the use of a series of mixing tanks along with separation of byproducts or added heat when necessary to create large batches of product. Many chemical processes can result in the release of gaseous byproduct that must be captured. The facility has one active opt-out Permit to Install (PTI) No. 17-19 that was issued in April of 2019.

Historically the facility was owned and operated by Esco LLC but was shut down in 2017. Since then, the facility was purchased by ACS who began the process of repairing the facility in 2019 for a return to production. In February of 2020, a stack test of the two air stripping towers was conducted as required by the permit. At that time the facility was not yet ready for a return to production. Soon after, the COVID-19 pandemic prevented further interaction as the facility completed the repair process. This inspection is the first inspection since the facility's return to production.

Upon arrival at the facility, SE observed no odors or visible emissions. SE was then greeted by Regulatory Affairs Director Bob Brenton (BB) and EHS Engineer John Ware (JW). A brief discussion was held in which the intent of the visit was explained, followed by a full facility inspection. During the inspection, all permitted equipment was inspected along with any exempt equipment located on site.

### PTI No. 17-19

This permit was approved in April of 2019. It includes 15 emission units listed below:

- EU-BuMAP
- EU-KetoAcids
- EU-ColorformA
- EU-ColorformB
- EU-ToIRcov
- EU-MeOHRecov
- EU-MainBoiler

- EU-BackupBoiler
- EU-CausticTanks
- EU-AcidTank
- EU-OrganicsTks
- EU-WasteSolvTks
- EU-RunoffVault
- EU-Furnaces
- EU-WWStripper

Some of these units are covered by individual conditions and some are included in flexible group conditions (FG-Production).

### EU-WWStripper

This emission unit is composed of two air stripping towers used for removing wastewater contaminants before discharge. It has one applicable emission limit: Volatile Organic Compounds (VOCs) are limited to 5.0 tons per year (tpy) over each 12-month rolling time period.

The permit requires the air stripping towers to be tested to determine VOC, toluene, and methanol emissions within 180 days of commencement of trial operation of any reactor covered in FG-Production (described in further detail below). The most recent test was conducted on February 7, 2020. On that date a stack test was conducted in preparation for reopening after the facility had been bought and refurbished. Results of that stack test were sent to the AQD offices in Lansing and no issues were identified at that time.

The facility is expected to retain the following monthly records regarding operations of the emission unit:

- Water flow rate of the emission unit.
- Toluene concentration of influent water.
- VOC emissions monthly and for each 12-month rolling annual period.

After the completion of the inspection, records were supplied by the facility for the period of August 2020 to July 2021 and were reviewed remotely. The following averages and maximums were determined based on these records:

- The highest flow rate was 1,934,031 gallons during July of 2021.
- The highest toluene concentration was 31 mg/l during March of 2021.
- The highest VOC concentration was 0.83 tons during May of 2021.
- The highest VOC 12-month rolling concentration was 5.46 tons per year (tpy) from August 2020 to July 2021.

As indicated by the records, the facility is in exceedance of their VOC annual emission limit of 5 tpy. A violation will be issued for this exceedance.

This emission unit has two associated stacks. Both were observed during the inspection. The stacks were not measured but appeared to meet permitted requirements.

### FG-Production

This flexible group is for the color former production process and includes the following emission units:

- EU-KetoAcids
- EU-BuMAP
- EU-ColorformA
- EU-ColorformB

This flexible group has one applicable emission limit: VOCs are limited to 17.8 tpy for each 12-month rolling time period.

FGProduction has three operational restrictions:

- Facility must have a malfunction abatement plan (MAP) on site in order to operate.
- The VOC condenser must be operational to operate the flexible group equipment.
- Heat exchangers and caustic scrubber must be operational to operate the flexible group equipment.

During the inspection it was confirmed that the facility had a MAP on site. It was also confirmed that the VOC condenser, heat exchangers, and caustic scrubber were all operational. As required by the equipment parameters within the PTI and based on records reviewed, all the equipment was equipped with appropriate functionality indicators as follows:

- VOC Condenser outlet temperatures were consistently recorded below the required minimum of -10°C.
- Readouts of heat exchanger temperatures demonstrate continuous monitoring and are included with this inspection.
- Flow rate readouts for caustic scrubber were provided and are included with this inspection.

The facility is required to maintain the following records:

- VOC condenser outlet temp records.
- Caustic scrubber flow rates.
- Caustic scrubber pH samples.
- Heat exchanger outlet temperatures.
- Record of all caustic scrubber alarms.
- Monthly FG-Production batch numbers.
- Monthly VOC emissions.
- Monthly 12-month annual VOC emissions.
- Records of maintenance activities.

After the completion of the inspection, records were supplied by the facility for the period of August 2020 to July 2021 and were reviewed remotely. The following averages and maximums were determined based on these records:

- The highest recorded VOC condenser outlet temp was -18.2°C on September 2, 2020.
- Highest caustic scrubber flow rate was 39.35 gallons per minute (gpm) on August 2, 2020

- Caustic Scrubber pH is recorded on batch record sheets. Samples provided showed consistent pH of 13.
- Highest heat exchanger outlet temp was 37.27°C on June 11, 2021.
- In total 11 alarms were recorded. An explanation of each was provided and is included with this report.
- Highest monthly batch number was 90 batches produced during May of 2021.
- Highest monthly VOC emissions were 0.83 tons during May of 2021.
- Highest 12-month rolling VOC emissions were 5.46 tons per year (tpy) from August 2020 to July 2021.
- Maintenance records were provided and demonstrated routine maintenance procedures throughout the year period with no notable repairs or replacements beyond routine procedures.

As demonstrated by the above analyses, the facility appeared compliant with all record keeping requirements.

The permit requires that the facility send notification to AQD district staff within thirty days of completion of all construction activity. No notification was received by district staff when the facility first began operating. After a discussion, the facility provided a written account of startup operations and explanations of why notifications were missed..

The flexible group has two associated stacks. The stacks were not measured during the inspection, but appeared to be compliant with permitted dimension requirements.

#### FG-Boilers

This flexible group encompasses two natural gas fired boilers (EU-MainBoiler and EU-BackupBoiler). This flexible group has only one material limit: only pipeline quality natural gas may be used in the boilers. During the inspection this was discussed and the facility confirmed compliance with available records.

The two boilers are limited to the following operational restrictions:

- EU-MainBoiler has a maximum firing capacity of 20,510 cubic feet per hour (ft<sup>3</sup>/hr)
- EU-BackupBoiler has a maximum firing capacity of 12,485 ft<sup>3</sup>/hr.

During the inspection, the boilers were examined. As confirmed by the boiler plates on each unit, the following firing capacities were observed:

- EU-MainBoiler is rated at 20,510 cubic feet per hour (ft<sup>3</sup>/hr).
- EU-BackupBoiler is rated at 12,485 ft<sup>3</sup>/hr.

These ratings confirm compliance with the restriction.

The facility is not permitted to operate both boilers simultaneously for more than 160 hours per month. The facility explained that one boiler serves only as backup and so only operates when the primary boiler is not in operation. Therefore, there was no simultaneous operation of the boilers.

The facility is required to keep the following records concerning FG-Boilers:

- Monthly natural gas usage.
- Number of hours of simultaneous use of both boilers monthly.

As discussed above, the hours of boiler operation were provided and demonstrate proper compliance. The facility also supplied natural gas usage records, which demonstrate that the highest month of natural gas use was 4,986 MMBtu of natural gas in May of 2021 was. These records demonstrate compliance with the recordkeeping requirement.

The facility was required to report installation and operation of EU-MainBoiler. This requirement is in regards to New Source Performance Standard (NSPS) 40 CFR Part 60.7 (subpart Dc). Upon commencing operation of the facility, ACS had not sent notification of installation and initial operation of the boiler. While this boiler was a prior existing unit with the previous facility, since ACS is a new owner who is returning the unit to operation after extended disuse, the facility will be asked to submit startup notification to maintain on file and ensure compliance with the NSPS standard. As both boilers are natural gas fired and this facility is not classified as a major source, these boilers are not subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart JJJJJJ.

There are two stacks associated with these boilers. The stacks were not measured during the inspection but appeared compliant with the height and dimension requirements as stated in the PTI.

#### FG-Facility

This flexible group includes conditions that apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment. These limits are intended to restrict the Potential to Emit of Hazardous Air Pollutants to opt the facility out of the Title V permitting program.

There are two emission limits that apply to this flexible group:

- Individual Hazardous Air Pollutant (HAP) emissions are limited to less than 8.9 tpy for each 12-month rolling time period.
- Aggregate HAP emissions are limited to less than 22.4 tpy for each 12-month rolling time period.

The facility is required to maintain records to demonstrate compliance with these limits. Upon request, records for the time period of August 2020 to July 2021 were provided and reviewed, yielding the following analyses:

- Highest individual HAP emissions were 12.14 tpy of Methanol from August 2020 to July 2021.
- Highest aggregate HAP emissions were 12.24 tpy from August 2020 to July 2021.

The above records demonstrate exceedance of the individual HAP emission limit of 8.9 tpy. A violation will be issued for this exceedance.

#### **Conclusion**

The facility is out of compliance with their VOC and individual HAP emission limits. A violation notice will be issued.

NAME Scott Evans

DATE 9/2/2021

SUPERVISOR HH