

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

A404361480

FACILITY: Dow Silicones Corporation		SRN / ID: A4043
LOCATION: 3901 S Saginaw Rd, MIDLAND		DISTRICT: Bay City
CITY: MIDLAND		COUNTY: MIDLAND
CONTACT: Amanda Karapas , Air Specialist		ACTIVITY DATE: 01/06/2022
STAFF: Gina McCann	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: Inspection of EU304-02		
RESOLVED COMPLAINTS:		

DOW Silicones/EGLE-AQD staff present during the inspection:

- Gina McCann (EGLE-AQD, Senior Environmental Quality Analyst)
- Amanda Karapas (Air Specialist, Dow Silicones)
- Steven Rausch (Resins Plant Production Coordinator, Dow Silicones)
- Christine Mason (304 Production Engineer)

EU304-02

Emission unit 304-02 (EU304-02) is for an alkylsilane process including reactors, distillation columns, condensers, scrubber, storage tanks, tanker station, and related equipment. Tanks that do not vent include 259, which is considered a waste tank. This emission unit vents to condenser 1154 then FGTHROX, or FGSITESCUBBERS in the event FGTHROX is inoperable. Condenser 1154 is a CAM subject unit for VOCs and is subject to the requirements of 40 CFR Part 64. This emission unit is subject to the requirements of 40 CFR Part 63, Subpart FFFF.

The most recent PTI No. 616-92B was issued on March 5, 2020, with the ROP minor modification received on March 16, 2020. This permit application was initiated in response to a violation notice written on April 25, 2019.

The last inspection for EU304-02 was performed on March 26th, 2019. The plant was sent a violation as part of this inspection. EU304-02, coolant inlet temperatures of condenser 414 were requested for the time period March 1, 2018 through March 22, 2019. Pursuant to special condition III.1. of EU304-02, coolant inlet temperatures of condenser 414 shall not exceed -13°C. Special condition IV.1a. of FGSITEBLOWER allows the emission vents at EU304-02, that are part of FGSITEBLOWER, the ability to operate the additional air pollution control equipment with parameters at levels or ranges outside of the specified parametric ranges or levels in their individual ROP tables, while EUTHROX is operating properly. However, coolant inlet temperatures of condenser 414 operated at higher temperatures than permitted, while emissions were not vented to EUTHROX or EUTHROX was not operating properly, as defined.

Resolution to the violation notice was to revise PTI 616-92A. PTI 616-92B removed condenser 414 and the 337 scrubbers (FG337SCRUBBERS) and revised HAP emissions to include trace HAPs emissions not identified in the original permitting. Condenser 414 was removed from the permit and is operated as a Rule 290 exempt unit, EU304-01. As part of the inspection on December 20, 2021 AQD sent a Rule 278(a) demonstration letter to determine if EU304-01 (condenser 414) meets the exemption requirements set forth in Rule 278. In particular how the activity associated with condenser 414 is not related to condenser 1154. Activity means the concurrent and related installation, construction, reconstruction, relocation, or modification of any process

or process equipment. It appears condenser 414 and condenser 1154 were installed as part of the same activity. If so, activity emissions greater than significance levels are excluded from using a Rule 201 exemption.

Subsequent permitting will need to be addressed to remove FGSITBLOWER, which is contained in the FGTHROX permit (91-07E). DSC is currently revising PTI 91-07E to incorporate a THROX reliability project, which includes installing a TOX. The PTI removes FGSITBLOWER and this flexible group will no longer exist.

Special condition (SC) I.1. restricts hourly VOC emissions to 13.10 pph. Compliance with this emission limit is determined through proper operation of condenser 1154. SC III.1. requires the coolant inlet temperature to be below -13C. SC VI. is the associated monitoring and recordkeeping requirement that requires the coolant inlet temperature of condenser 1154 to be monitored and recorded. I reviewed condenser coolant inlet temperatures for the time period from January 1, 2021 through January 5, 2022 and the plant was in compliance for this time period. During the inspection we viewed the condenser and current operations. The coolant inlet temperature was -22C. The SPA (secure process alarm) was set at -18 C. EU304-02 does have the capability to vent to FGTHROX. During time of venting to FGTHROX, FGTHROX operated above the required 1800F temperature.

SC I.2. restricts VOC emissions to 7.3 ton per year (tpy) based on a 12-month rolling time period as determined at the end of the month. SC VI.2. is the associated monitoring and recordkeeping requirement that requires the plant to calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in this table. VOC emissions for the 12-month rolling time period ending November 2021 were 24.70 pounds (lbs).

Proper operation of condenser 1154 (SC III.2) is determined through the installation of a temperature indicator (III.3) and calibration of the temperature indicator (SC III.4). The temperature transmitter (TT1154-2002) is calibrated every other year. Last calibrations were 12/20/2020 and 12/30/2018.

At the time of the inspection the plant appeared to be in compliance with the current PTI (616-92B).

NAME



DATE 2/3/2022

SUPERVISOR

