The Dow Chemical Company
Michigan Operations
Midland , MI 48674

November 15, 2019

CERTIFIED MAIL
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RESPONSE TO DOW SILICONES CORPORATION VIOLATION NOTICE FOR FG304VENTRECOVERY (304 VENT RECOVERY SYSTEM)

Attached is a response to a Violation Notice dated October 16, 2019 for the 304 vent recovery system located at Dow Silicones Corporation in Midland, Michigan. This process is covered by table FG304VENTRECOVERY in Renewable Operating Permit No. MI-ROP-A4043-2019. If you have any questions regarding this response, please contact Jenny Kraut at 989-496-7133 or jennifer.kraut@dow.com.

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FG304VENTRECOVERY (304 Vent Recovery System)

Violation Notice Response

Introduction

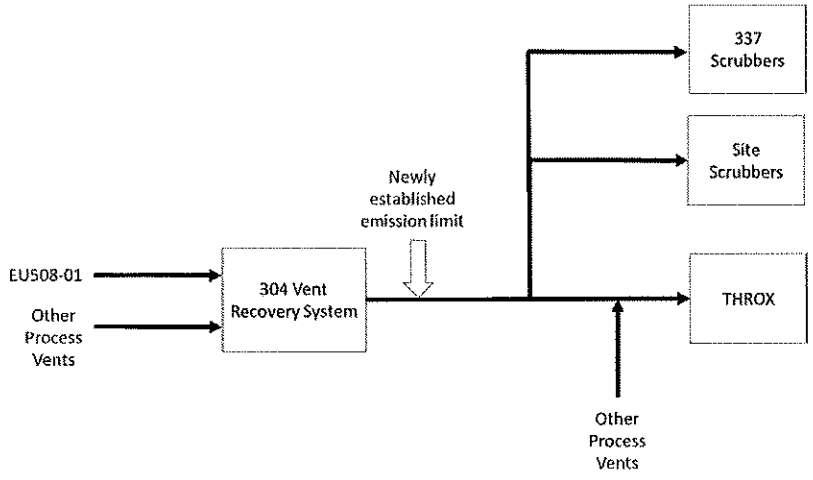
On September 26, 2019, Gina McCann of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) conducted an air inspection at EU508-01 (Phenyltrichlorosilane and Diphenyldichlorosilane Recovery Process) and FG304VENTRECOVERY (304 Vent Recovery System). At the time of the inspection, it was determined that Dow Silicones Corporation (DSC) was unable to demonstrate compliance with the 22.5 ton per year volatile organic compound (VOC) emission limit specified in condition no. I.2 of table FG304VENTRECOVERY in Renewable Operating Permit (ROP) No. MI-ROP-A4043-2019. This limit is based on a 12-month rolling time period as determined at the end of each calendar month. As a result, in a letter dated October 16, 2019, EGLE cited DSC in violation of the permit and requested a written response to the cited violation by November 6, 2019. A request to extend the response deadline to November 15, 2019 was submitted to EGLE on October 25, 2019 and was approved the same day. This document contains DSC's response to the cited violation.

Requested Information

Submit a written response to the cited violation. The written response should include: the dates the violations occurred; an explanation of the causes and duration of the violations; whether the violations are ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence.

Dow Silicones Corporation Response:

A detailed review of the permit history associated with emission unit EU508-01 and flexible group FG304VENTRECOVERY was completed. This review included PTI 84-08 submitted in 2008, PTI 138-12 submitted in August 2012, PTI 84-08A submitted in December 2012, and PTI 84-08B submitted in May 2014. A simplified block flow diagram of the process units as they exist today is provided for discussion.



To the best of our knowledge it appears that a 42.8 ton per year emission limit associated with the 508 building process unit existed in 2008. The emissions from the 508 process unit took into consideration a reduction in emissions from the 304 vent recovery process. The emissions from the 304 vent recovery system were directed to a water scrubber but no additional VOC removal was expected, so the scrubber outlet was the vent to atmosphere.

In 2012 a permit revision (138-12) was submitted and at that time the ton per year emission limit associated with EU508-01 was moved to the FG304VENTRECOVERY flexible group and a 30.0 pound per hour (pph) emission limit was established. At that same time it also appears that venting to the thermal treatment unit (TTU) was considered as a control option as the 42.8 TPY limit was reduced to 22.5 TPY and a condition related to TTU bypass time (1500 hours) was introduced. It is our understanding that the 22.5 TPY emission limit agreed to as a permit condition is associated with the 1500 hour bypass time but was not clearly described in a permit condition. This is evident by the fact that a 30.0 pound per hour emission rate multiplied by a bypass time of 1500 hours yields 22.5 tons per year. This is further supported by the fact that enclosure #1 of the PTI application also refers to the bypass scenario and associated limits.

During the inspection, EGLE requested 12-month rolling records demonstrating compliance with the 1500 hour bypass limit stated in the ROP (and PTI No. 84-08B) for EU508-01 through July 2019. According to information provided during the inspection, EU508-01 bypassed THROX to the site scrubbers for 686 hours through July 2019 (based on a 12-month rolling time period) which demonstrates compliance with the 1500 hour bypass limit stated in the ROP.

Since EU508-01 has not exceeded the 1500 hour THROX bypass limit, and because emissions from 304 vent recovery are primarily treated by the THROX with a destruction removal efficiency greater than 99%, DSC does not believe there was any harm to the environment as a result of the alleged violation.

In order to correct the cited violation, DSC will submit a permit application for air PTI No. 84-08B by June 30, 2020. Once the permit is issued, DSC will initiate the change management process to ensure all conditions within the permit have the correct compliance demonstration activities associated with them in order to accurately certify compliance on a semi-annual basis. Finally, the alleged violation will be reported as a deviation in the annual deviation report due March 15, 2020 and will include the reasons and corrective action cited above.