

**EU304-02 (Alkylsilane Process)**

**Violation Notice Response**

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**Introduction**

On March 26, 2019, the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD) conducted an inspection at EU304-02 (Alkylsilane Process) located at the Dow Silicones Corporation (DSC) in Midland, Michigan. Based upon information provided during the inspection, DSC received a violation notice (VN) from the MDEQ-AQD on April 25, 2019. The VN cited DSC in violation of the requirements of table EU304-02 in Renewable Operating Permit (ROP) No. MI-ROP-A4043-2019. MDEQ-AQD requested a response to the VN by May 16, 2019. A request to extend this deadline to May 23, 2019 was submitted to the MDEQ-AQD on April 26, 2019 and was approved the same day. This document contains DSC's response to the VN.

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**Requested Information**

Submit a written response to the VN. 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.

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***Dow Silicones Corporation Response:***

Operation of the Alkylsilane Process is covered by table EU304-02 in ROP No. MI-ROP-A4043-2019. The most recent Air Permit to Install (PTI) covering this process is PTI No. 616-92A. This PTI was voided when it was rolled into the ROP as EU304-02. When PTI No. 616-92A was issued, it required the following air pollution control devices to be installed and operating properly: condensers 414 and 1154, and the 337 scrubber. At the time of permit issuance, condensers 414 and 1154 operated in parallel (i.e., equipment could be vented to either condenser 414 or 1154), and in addition, condenser 414 was shared with EU304-01. In 2005 following issuance of the PTI, DSC stopped venting EU304-02 to condenser 414 and dedicated condenser 414 to emission unit EU304-01 (leaving condenser 1154 to treat emissions from EU304-02). Condenser 414 was previously considered an alternate control device to condenser 1154 at EU304-02. EU304-01 is the Hexenyl Process and is operated under Rule 290 (R336.1290). At that time, DSC determined that this change should be exempt from air PTI requirements since the condensers operated in parallel and removing condenser 414 from EU304-02 would result in no meaningful change in the quality and nature or any meaningful increase in the quantity of emissions.

In 2013, DSC switched the coolant on condenser 414 from always using glycol to using either glycol or service water depending on the product being manufactured. This was done to eliminate a problem with freezing during venting. The change in coolant resulted in an increase of condenser 414's coolant inlet temperature. Since condenser 414 was dedicated to a Rule 290 exempt emission unit, no consideration was given to an operating condition that previously applied under the permit for EU304-02. As you know, Rule 290 does not specify operating parameters so long as the emission limits are achieved.

The 337 scrubber was also listed as a required air pollution control device in PTI No. 616-92A. However, EU304-01 and EU304-02 discharge to a common vent header that also contains Group 1 vents from MON (Misc. Organic NESHAP – 40 CFR Part 63, Subpart FFFF) regulated process units. Since the 337 scrubber is not an approved control device for MON Group 1 vents, it was bypassed during MON implementation, and the vent header was re-routed to the THROX, and its associated scrubbers, which is an approved control device. DSC determined this was environmentally compliant and exempt from air PTI requirements since the THROX provides equal or better emission control.

The VN acknowledges condition no. IV.1 of table FGSITEBLOWER in the ROP, however, it alleges that EU304-02 was operating while the coolant inlet temperature for condenser 414 was greater than -13 degrees Celsius, and EU304-02 was bypassing THROX. Condition no. III.1 of table EU304-02 in the ROP states, in part: the maximum coolant inlet temperature of condenser 414 shall not exceed -13 degrees Celsius. DSC did not believe an exceedance of the temperature limit while bypassing the THROX was non-compliant since condenser 414 was no longer associated with EU304-02. As mentioned above, condenser 414 is associated with EU304-01 which is a Rule 290 emission unit. Rule 290 does not set enforceable operational parameter limits on control devices.

In addition, the VN alleges that exceedances of the coolant inlet temperature for condenser 414 were not reported in the 2018 annual and semi-annual Title V deviation and CAM excursion reports. DSC did not report coolant inlet temperatures above -13 degrees Celsius for condenser 414 since DSC did not believe these were reportable deviations or CAM excursions for the reasons described above.

Finally, the VN alleges that operational restrictions, or permit limitations, exist within the current ROP for condenser 414 and that, pursuant to Rule 278(4) (R336.1278(4)), air permit to install exemptions cannot be used to excuse the requirements of an existing permit. Rule 278(4) states: Exemptions in R336.1280 to R336.1291 apply to the requirement to obtain a permit to install only and do not exempt any source from complying with any other applicable requirement or existing permit limitation. Historically at the time of the changes described above, DSC did not understand that air exemptions cannot be used to override prohibitory conditions in an existing air permit. Therefore, changes were made to EU304-02 that were in conflict with the permit.

In response to the VN, DSC will implement the following corrective action:

1. An air PTI application will be submitted by August 23, 2019 to revise PTI No. 616-92A for EU304-02 so that it reflects current operations.
2. Air PTI exemptions will not be used to override prohibitory conditions stated in existing permits or the ROP. The learnings from this violation notice have been communicated to site environmental staff.

Despite the alleged violations, DSC does not believe there was any harm to human health or the environment. The change that left EU304-01 using condenser 414 and EU304-02 using condenser 1154 maintained existing levels of emission control. The change to the site THROX improved emission control, and EU304-01 has been in compliance with the emission limits of Rule 290.