



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
BAY CITY DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

July 18, 2022

VIA EMAIL ONLY

Kristin Soto, Responsible Care Leader
The Dow Chemical Company
1790 Building, Washington Street
Midland, Michigan 48674

SRN: A4033, Midland County

Dear Kristin Soto:

VIOLATION NOTICE

On June 28, 2022, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), conducted an inspection of The Dow Chemical Company (Dow) located at 1790 Building, Washington Street, Midland, Michigan. The purpose of this inspection was to determine Dow's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and the conditions of Renewable Operating Permit (ROP) number MI-ROP-A4033-2017b;

During the inspection, staff observed the following:

Process Description	Rule/Permit Condition Violated	Comments
EU82 588 building VBC process	MI-ROP-A4033-2017b, EU82, SC IV.2.a.	Reported SV82002 vent valve open June 18-29, 2021. EU82 SC IV.2.a. limits VBC venting to SV82002 to 186 hours/month.

The conditions of ROP No. MI-ROP-A4033-2017b limit the hours emissions the VBC process can bypass the 963THROX and vent to SV82002 to 186 per month. During June 2021, the VCB process vented to SV82002 for more than 216 hours while in the purification/distillation step. The purification/distillation step did not vent to the 963THROX while venting to SV82002.

Between June 18 and June 29, 2021, Dow bypassed 963THROX and exhausted emissions from EU82 to SV82002 in excess of the allowed 186 hours per month. The bypass occurred due to inadequate start-up procedures and monitoring of SV82002 vent status.

Between June 18 and June 29, 2021, the bypass line to SV82002 was open for an extended period without the facility being aware, and in violation for more than 30 hours over the 186 hours allowed operating limit intended to control emissions of toxic air contaminants. Dow did not provide notification of the bypass hour limitation exceedance to EGLE until September 14, 2021.

Rule 912 (R 336.1912) of the administrative rules promulgated under Act 451, requires the owner or operator of a source, process, or process equipment to provide notice and a written report of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of any air contaminant continuing for more than two hours in excess of a standard or limitation established by any applicable requirement.

On July 13, 2022, EGLE staff explained to Dow staff that the allowed 186 hours per month bypass from the VBC process to SV82002 is a limitation under Rule 912 and future emissions of an air contaminant for more than two hours in excess of a limitation should be reported. When releases occur or emission, material, or operating requirements are not met, Dow should include an evaluation of Rule 912 applicability as part of the sites compliance review.

This process is also subject to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (MON). These standards are found in 40 CFR Part 63, Subpart FFFF. Dow has confirmed that all process and storage tank vents are Group 2 vents per the MON MACT and no reporting or NOCs updates are required.

Dow has previously submitted the dates the violations occurred, an explanation of the causes and duration of the EU82 excess venting violation, and whether the EU82 excess venting violations are ongoing. On July 12, 2022, Dow provided the following details on corrective and preventative measures:

The following alarms and logic controllers have been incorporated into the operational controls:

Item	Description	Action
Alarm No. 277	Alarm to notify bypass hours near limit for month	Alarm at 180 hours for VBC, 380 hours for BCB
Alarm No. 295	Alarm to verify open bypass appropriate	Every 20 hours during open bypass
Installed process logic controllers	Replaced manual process shutdown with automated process shutdown	Interlocks bypass shut during certain process steps. Prevents certain process steps from starting or initiates process

		shutdown if bypass hour limit exceeded.
Totalizer comparison logic	Automated hours bypass totalizer comparison to bypass limit hours	Used for alarms and process control

On July 14, 2022, Dow provided the following estimated emissions vented to SV82002 for the month of June 2021, including the 264 hours in which the distillation column bypassed the 963THROX:

Component	June Emissions (lbs)
Benzene	0.22
Butadiene	0.07
Ethylbenzene	0.26
Ethyl chloride	0.14
Hexadiene	0.02
Methyl chloride	1.04
m-Vinyl toluene	0.02
Nitromethane	2.01
Styrene	0.54
Toluene	6.68

Please initiate any additional actions needed to correct the cited violations. If additional actions are taken or planned, please submit a written response to this Violation Notice by August 8, 2022 (which coincides with 21 calendar days from the date of this letter).

Please submit the written response to EGLE, AQD, Bay City District, at 401 Ketchum Street, Suite B, Bay City, Michigan 48708 and submit a copy to Jenine Camilleri, Enforcement Unit Supervisor at EGLE, AQD, P.O. Box 30260, Lansing, Michigan 48909-7760.

If Dow believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Kristin Soto
The Dow Chemical Company
Page 4
July 18, 2022

Thank you for your attention to resolving the violations cited above and for the cooperation that was extended to me during my inspection of Dow. If you have any questions regarding the violations or the actions necessary to bring this facility into compliance, please contact me at brewerk@michigan.gov or the number listed below.

Sincerely,

A handwritten signature in black ink that reads "Kathy Brewer". The signature is written in a cursive style with a large, prominent "K" and "B".

Kathy Brewer
Senior Environmental Quality Analyst
Air Quality Division
989-439-2100

cc: Vanessa Smith, Dow
Jim Algers, Dow
Mary Ann Dolehanty, EGLE
Dr. Eduardo Olaguer, EGLE
Jenine Camilleri, EGLE
Christopher Ethridge, EGLE
Brad Myott, EGLE
Chris Hare, EGLE