

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

A404370659

FACILITY: Dow Silicones Corporation		SRN / ID: A4043
LOCATION: 3901 S Saginaw Rd, MIDLAND		DISTRICT: Bay City
CITY: MIDLAND		COUNTY: MIDLAND
CONTACT: Jim Alger , Midland Area State Air Permitting Specialist		ACTIVITY DATE: 01/25/2024
STAFF: Adam Shaffer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: Partial Compliance Evaluation - EURULE604, EURULE605, EURULE703, FGRULE604, FGRULE605 and FGRULE703		
RESOLVED COMPLAINTS:		

A partial compliance evaluation (PCE) consisting of an onsite inspection and records review was conducted by Air Quality Division (AQD) staff Adam Shaffer (AS) of the Dow Silicones Corporation (DSC) site located in Midland, MI. Applicable records were requested on January 16, 2024, to verify compliance with Renewable Operating Permit (ROP) No. MI-ROP-A4043-2019b, specifically for emission units (EU)RULE604, EURULE605 and EURULE703. Through these emission units select records were requested and reviewed for flexible group (FG)RULE604, FGRULE605, and FGRULE703. An in-person inspection to verify onsite compliance was later completed on January 25, 2024.

Facility Description

DSC is a chemical processing facility. The facility is a mega-site and is a major source of hazardous air pollutants (HAPs), nitrous oxides (NOx), particulate matter (PM) and volatile organic compounds (VOCs). Additionally, the site is subject to various federal regulations and the site is operating under an EPA Civil Order No. 19-11880.

Offsite Compliance Review

DSC is required to submit semi-annual and annual compliance reports per Part A General Conditions 19-23 of MI-ROP-A4043-2019b. Previous reports were reviewed for select time periods. No deviations were noted that would appear to be related to the emission units that are to be inspected for this PCE.

Based on the timing of the inspection, DSC has not submitted at this time their State and Local Emissions Inventory System (SLEIS) Report for 2023. After the company submits their 2023 SLEIS Report, select portions shall be reviewed and any errors noted addressed.

Compliance Evaluation

A request was sent to Mr. Jim Alger, Midland Area State Air Permitting Specialist, of DSC on January 16, 2024, for records required by ROP No. MI-ROP-A4043-2019b, specifically for EURULE604, EURULE605, EURULE703, FGRULE604, FGRULE605 and FGRULE703. The onsite inspection was completed on January 25, 2024. AQD staff AS arrived at the facility at approximately 10am. Weather conditions at the time of the inspection were cloudy skies, temperatures in the mid 30's degrees Fahrenheit and winds to the southwest at 5-10mph. Upon arrival AS met with Mr. Alger and several other company staff to complete a tour of the site, specifically of select portions of EURULE604, EURULE605 and EURULE703. Site specific questions were answered by company staff and vapor pressures for the tanks were collected at the time of the inspection.

As mentioned above DSC is a chemical processing facility. During the inspection, various components pertaining to EURULE604, EURULE605 and EURULE703 were reviewed and discussed at length with company staff.

ROP No. MI-ROP-A4043-2019b**FGRULE604**

This flexible group is for any existing or future storage vessels subject to the requirements of R 336.1604 (Rule 604). Storage vessels subject to AQD Rule 604 are those which store any organic compound having a true vapor pressure of more than 1.5 psia, but less than 11 psia, at actual storage conditions in any fixed roof stationary vessel of more than 40,000-gallon capacity. The emission unit associated with this flexible group is EURULE604.

Observations

At the time of the inspection, several units that are subject to Rule 604 were observed. Tanks observed during the course of the inspection did not appear to have any leaks, and all lids / covers / seals observed for each tank were noted to be closed. Additionally, for the one tank (DV60) the connections for the vapor recovery system and to the 304-vent recovery were observed.

Per Special Condition (SC) VI.1 the permittee shall maintain an up-to-date record of all storage vessels subject to the requirements of AQD Rule 604. An up-to-date list was provided prior to the inspection. DSC has a total of six storage vessels subject to Rule 604 that range in size from 40,000 gallons to 100,000 gallons. Materials contained in the storage vessels consist of methanol, benzene, methyldichlorosilane, methyltrichlorosilane, trimethylchlorosilane and / or hazardous waste. It was noted the hazardous waste tank was out of service. Vapor pressures were provided for tanks reviewed at the time of the inspection and were noted to range from 1.5 psia – 8.16 psia. It was noted that the 1.5 psia tank was the hazardous waste tank and it was out of service at the time. Based on the records provided, no issues were noted.

Per SC IX.1, the permittee shall not operate storage vessels subject to AQD Rule 604 unless one of the following conditions is met which are further described in MI-ROP-A4043-2019b. A list of which portions of IX.1, DSC is following to verify compliance was provided to AQD staff. Upon review, DSC utilizes the condition "The vessel is a pressure tank capable of maintaining working pressures sufficient to prevent organic vapor or gas loss to the atmosphere at all times, except under emergency conditions" to be in compliance with Rule 604. Additionally, the benzene containing tank also utilizes the condition "The vessel is equipped and maintained with a vapor recovery system, or other control system approved by the Director of the AQD or Assistant Director of the AQD, which recovers not less than 90% by weight of the uncontrolled organic vapor that would otherwise be emitted to the atmosphere" to demonstrate compliance with Rule 604. The control device utilized is the 304-vent recovery. Based on the observations made at the time of the inspection, there appeared to be no issues.

Per SC IX.2, all openings, except stub drains, in any stationary vessel subject to AQD Rule 604 shall be equipped with covers, lids, or seals such that all of the following conditions are met that is described further in MI-ROP-A4043-2019b. It was verified by company staff that all openings except for stub drains on stationary vessels subject to Rule 604 are equipped with covers, lids, and/or seals. Company staff went on to say that the covers, lids and seals are operated to meet the conditions listed in this special condition and procedures are in place to document when to open the applicable items and ensure are closed when work is completed. Based on the observations made at the time of the inspection and responses provided by company staff there appeared to be no issues.

FGRULE605

This flexible group is for any existing or future storage vessels subject to the requirements of R 336.1605 (Rule 605). Storage vessels subject to AQD Rule 605 are those which store any organic compound having a true vapor pressure of 11 or more psia at actual storage conditions in any stationary vessel of more than 40,000-gallon capacity. The emission unit included in this flexible group is EURULE605.

Observations

At the time of the inspection, several units that are subject to Rule 605 were observed. Tanks observed during the course of the inspection did not appear to have any leaks, and all lids / covers / seals observed for each tank were noted to be closed.

Per SC VI.1, the permittee shall maintain an up-to-date record of all storage vessels subject to the requirements of AQD Rule 605. A list of storage vessels subject to Rule 605 was provided prior to the inspection. A total of six storage vessels are subject to Rule 605 that range in size from 40,000 gallons to 75,000 gallons and contain methyl chloride, TCS Crude, TCS Chem Grade, TCS Semiconductor Grade, and / or TCS Plant Grade. Vapor pressures were provided for the select tanks observed during the inspection and were all noted to be at 11.47 psia.

Per SC IX.1, the permittee shall not operate storage vessels subject to AQD Rule 605 unless one of the following conditions is met that is further described in this special condition. Upon review of the storage vessels listed, DSC maintains compliance with Rule 605 by using the condition "The vessel is a pressure tank capable of maintaining working pressures sufficient to prevent organic vapor or gas loss to the atmosphere at all times, except under emergency conditions". Additionally, the methyl chloride containing tank uses the condition "The vessel is equipped and maintained with a vapor recovery system, or other control system approved by the Director of the AQD or the Assistant Director of the AQD, which recovers not less than 90% by weight of the uncontrolled organic vapor that would otherwise be emitted into the atmosphere" to maintain compliance with Rule 605. The vapor recovery system used is the 311-vent recovery system. Based on the observations made at the time of the inspection, no issues were noted.

Per SC IX.2, all openings in any stationary vessel subject to the provisions of AQD Rule 605 shall be equipped with covers, lids, or seals such that the covers, lids, or seals are in a closed position at all times, except when in actual use. It was verified by company staff that DSC does keep all covers, lids and/or seals closed except when in use. Based on the observations made at the time of the inspection, no issues were noted.

FGRULE703

This flexible group is for any new or future storage vessels subject to the requirements of R 336.1703 (Rule 703). Storage vessels subject to AQD Rule 703 are those which receive gasoline from a delivery vessel into any new stationary vessel of more than 2000-gallon capacity located at any gasoline dispensing facility. The emission unit included in this flexible group is EURULE703.

Observations

Per SC VI.1, the permittee shall maintain an up-to-date record of all storage vessels subject to the requirements of AQD Rule 703. Records were requested and it was determined that DSC has no storage vessels subject to Rule 703 onsite at this time. Additionally, DSC has not constructed any new vessels onsite that would be subject to Rule 703 in the past five years.

Per SC IX.1, the permittee shall not load or allow the loading of gasoline from a delivery vessel into any new stationary vessel, or more than 2000-gallon capacity located at any gasoline dispensing facility, unless such stationary vessel is equipped with a permanent submerged fill pipe. As mentioned above, DSC has no storage vessels subject to Rule 703 onsite at this time.

Per SC IX.2, a new stationary vessel at a gasoline dispensing facility shall be constructed in a manner that will allow the vessel to be retrofitted according to AQD Rule 703(2) and (3). As mentioned above, DSC has no storage vessels subject to Rule 703 onsite at this time.

Conclusion

Based on the observations made and records reviewed, DSC appears to be in compliance with MI-ROP-A4043-2019b, specifically the portions related to EURULE604, EURULE605, EURULE703, FGRULE604, FGRULE605, and FGRULE703.

NAME Alan J. Smith

DATE 01/15/24

SUPERVISOR C. Kare