

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

A404349266

FACILITY: Dow Silicones Corporation		SRN / ID: A4043
LOCATION: 3901 S Saginaw Rd, MIDLAND		DISTRICT: Saginaw Bay
CITY: MIDLAND		COUNTY: MIDLAND
CONTACT: Jennifer Kraut , Air Specialist		ACTIVITY DATE: 06/05/2019
STAFF: Gina McCann	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: EU321-01, EU321-11 (FGRULE290), EU321-17 (FGRULE290) and EU340-01		
RESOLVED COMPLAINTS:		

Inspection Date: 6/12/2019

Inspection Started: 8:30

Inspection Ended: 15:15

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

- Gina McCann (EGLE-AQD, Senior Environmental Quality Analyst)
- Jennifer Kraut (Air Specialist, DOW MiOps)
- Brandon Bishop (EHS Specialist, DOW MiOps)
- Nancy Zhen Wu (321 Production Engineer, DOW MiOps)
- Tim Vandermale (321 Production Engineer, DOW MiOps)
- Leah Olson-Perry (EHS Specialist, DOW MiOps)
- Arianna Lopez (340 Production Engineer, DOW MiOps)

EU321-01

40x Resin process including reactors, distillation, storage tanks, condensers, scrubber, separators, and related equipment. This emission unit is subject to the miscellaneous chemical manufacturing NESHAP in 40 CFR Part 63, Subparts A and FFFF (MPCU71). EU321-01 is a CAM subject emission unit subject to the requirements of 40 CFR Part 64. The most recent PTI for this emission unit is PTI No. 174-12A.

- Condenser (24623). These devices are CAM subject units for VOC.
- Venturi scrubber (11472). These devices are CAM subject units for VOC.
- FGTHROX
- FGSITESCRRUBBERS

The 40X resin process vents to the condenser (24623), the venturi scrubber (11472) and then two other building, polishing, scrubbers (7170 and 4776). Scrubber 7170 and 4776 were already installed and in line when the building tied into the THROX header. Ms. Olson-Perry verified that control efficiencies from these scrubbers are not considered when calculating emissions. Scrubbers 7170 and 4776 were installed for R290 units. Additionally, the emission unit has utilized carbon beds (north 43360 and south 43361) during THROX SSM events to comply with the MON Group 1 requirements. Recently, within the past (3) three weeks the, the plant initiated alternate procedures for complying with Group 1 requirements. Condensers 5141 and 7158 are cascading control devices, to the carbon beds, and have not been tested to demonstrate compliance with the MON. The plant intends to test condensers 5141 and 7158 to show they meet Group 1 control requirements. In the interim, when the THROX goes down, the plant initiates shutdown instead of diverting to carbon beds.

Special Condition (SC) III.1. restrict the coolant return temperature of condenser 24623 to less than 40C. This is also a Compliance Assurance Monitoring (CAM) parameter and an excursion is defined as the coolant return temperature exceeding this operational parameter. SC VI.1. is the associated monitoring and recordkeeping requirement to monitor and record, on a continuous basis, the coolant return temperature of condenser 24623 with instrumentation acceptable to the AQD. For the purposes of this condition, "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. Monitoring and recording of data "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. The permittee may record block average values for 15 minute or shorter periods calculated from all measured data values during each period. During the inspection, the process was shutdown due to perform emergency shutdown testing. I was not able to

view the operation. However, I did review the secure process alarm (SPA) for this control device. A SPA is set to alarm if the temperature reaches 38F. I also reviewed coolant return temperatures for this condenser for the time period April 1, 2018 through April 30, 2019. The maximum temperature during this time period was 29.3C. The coolant return temperature was below the operational restriction during the period of time reviewed.

SC III.2. requires the liquid flow rate of scrubber 11472 to be above 3.0 gallons per minute (gpm). This is a CAM monitoring parameter and if the flow is less than 3.0 gallons per minute, the permittee shall implement corrective action and maintain a record of action taken to prevent recurrence. An excursion is a liquid flow rate less than 3.0 gallons per minute defined in this condition or demonstrated during testing. CAM excursions are discussed under the compliance reporting section of this inspection report.

SC VI.2. is the associated monitoring and recordkeeping report that requires the plant to monitor and record, on a continuous basis, the liquid flow rate of the scrubber (11472) with instrumentation acceptable to the AQD. For the purposes of this condition, "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. Monitoring and recording of data "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. The permittee may record block average values for 15 minute or shorter periods calculated from all measured data values during each period. During the inspection, the process was shutdown due to perform emergency shutdown testing. I was not able to view the operation. However, I did review the secure process alarm (SPA) for this control device. A SPA is set to alarm if the flow falls below 3.9 gpm. I also reviewed liquid flow rates of scrubber 11472 for the time period April 1, 2018 through April 30, 2019. Three periods of time were identified when the scrubber flow rate was below 3.0 gpm.

SC III.3. allows the plant to store material in, and withdraw material from, storage tank DV4755 up to 240 hours per year, unless the Administrator has approved an extension, which would allow up to 360 hours per year. SC IV.7. and VI.8. are associated recordkeeping conditions, which requires the plant to keep a record of the number of hours per month and per year that planned routine maintenance occurs for the HCl scrubber (venturi scrubber 11472) while material is stored in storage tank DV4755. Records of any extension approvals are also required with these conditions. These conditions are written to comply with the MON MACT requirements for storage tanks. During periods of planned routine maintenance, the emission limits in Table 4 of 40 CFR Part 63 Subpart FFFF does not apply.

SC VI.3. requires the plant to maintain a record of the date, time and duration for every low flow alarm (i.e. scrubber flow is less than 3 gpm), as well as, actions taken to restore proper flow for venturi scrubber no. 11472. This record was maintained for the three periods of time identified during records review and are as follows:

- 8/4/2018 6:26AM – 8/20/2018 8:57PM – Down due to maintenance. No material present in the vessel
 - Maintenance vent was open (NV43265) during this time period
- 11/14/2018 7:35AM - 3:26PM
 - Although flow was lost to scrubber 11472, the plant was venting to FGTHROX.
(NV43352 is open)
- 1/21/2019 1:09PM - 1:59PM
 - Flow was lost to scrubber 11472, however the plant was venting to FGTHROX.
(NV43352 is open)

SC IV.1. restricts operation of any equipment in EU321-01 that exhausts to emission control equipment unless the emission control device is installed, maintained, and operating in a satisfactory manner. Both control devices permitted under this unit appear to be meeting this requirement.

SC IV.2. requires the plant to equip and maintain the HCl scrubber (venturi scrubber 11472) with a liquid flow indication system. At the time of the inspection the plant appeared to be meeting this requirement.

SC IV.3. requires the plant to equip and maintain condenser 24623 with a temperature indication system. At the time of the inspection the plant appeared to be meeting this requirement.

SC IV.4. requires the plant to calibrate the temperature indicator for condenser 24623 and the flow indicator for scrubber 11472 in a satisfactory manner. During the inspection we viewed calibration records. Condenser 24623 is now on a four (4) year preventative maintenance (PM) cycle. The last calibrations were done 3/31/2014 and 8/8/2016. Scrubber 11472 is on a two (2) year PM cycle. The last calibrations to the flow transmitter were performed on 3/16/2018 and 8/9/2016.

SC VI.5. and VI.6. require 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 the emission limits table. SC I.2. and SC I.3. restrict emissions of VOCs to 2.3 ton per year (tpy) and hexamethyldisiloxane to less than 4.8 tpy, based on a 12-month rolling time period as determined at the end of each calendar month, respectively. For the 12-month rolling time period ending April 2019, VOC emissions were 1.13 tpy and hexamethyldisiloxane emissions were 3.95 tpy.

SC VI.9. through VI.12. are associated with CAM recordkeeping and monitoring. The compliance reporting section below references deviations and/or actions taken to mitigate deviations. Activity that pertains to these conditions is discussed in the Compliance Reporting section of this report.

SC VIII.1. through VIII.10. pertain to stack/vent restrictions. SC VIII.4., SV321-005 does not meet the minimum height above ground (feet) requirement. A PTI revision will be sent in during the 2019 year. Deviation reported, see compliance reporting section of this report.

Compliance Reporting

- *Various (22.75 hours) EU321-MON Scrubber flow rate dropped below the required rate on various occasions between 9/10 and 9/17. Required flow rate was determined by a stack test when the process was running, but no process was running at these times, Although the process did contain non-volatile material. Corrective action: Scrubber flow rate set point was raised to include a safety factor above the minimum required flow rate. A programming option was added for the process to vent to the site scrubbers, which satisfy MACT requirements. A MON process operated without Group 1 control. This is an excursion under the CAM rule. Estimated total emissions were less than 1 lb.*
- *12/5/18 EU321-01 SC VIII.4.PTI (174-12A) SV321-005 is 2.7 feet above ground PTI requires a minimum of 6.0 feet. Corrective action: Update PTI to remove 40X process will be submitted in 2019 to regulate under R284(i).*
- *1/1/18 EU321-MON, EU340-MON and EU2901-MON Some of the parametric monitoring values reported in the MON NOCS submitted on 9-15-18 require updates. See report for details.*
- *1/1/2018 EU321-MON Condenser DV5141 was not included in the NOCS as a large control device for group 1 batch process vents with organic HAP emissions. A performance test was not conducted, and operating parameter limits were not established for the condenser. Condenser DV5141 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the purview of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.*
- *1/1/2018 EU321-MON Scrubber DV7158 was not included in the NOCS as a large control device for group 1 batch process vents with hydrogen halide and halogen HAP emissions. A performance test was not conducted, and operating parameter limits were not established for the scrubber. However, the scrubber is not necessary to meet emission limits. Condenser DV7158 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the*

prevue of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.

- **1/1/2018 EU321-MON**
A group 1 by-pass valve in the 321 building was not previously identified. NOCS updated. Electronic records were reviewed by 321 building staff and this by-pass valve was never in the open position while making a group 1 product in calendar year 2018.
- **11/3/2018, EU321-MON (6 minutes)**
Due to a malfunction, a MON process operated without Group 1 control. THROX had 'low flow' signal for the ionizing wet scrubber, due to a malfunctioning flow meter. Diverted to carbon beds, which are a MACT control device. Operators switched back to THROX before they were given the 'all-clear', which routed the 321 process to the site scrubbers instead, which is not a MACT control device. Corrective action: 321 building programming modified to prompt operators to verify THROX is ready to receive vents before diverting from carbon to THROX.
- **Various- EU321-MON**
A MON process operated without Group 1 control. This is an excursion per CAM. Estimate total emissions were less than 1 lb. Process was not operating, but leftover emissions were vented.
- **8/27/2018 EU321-MON**
EBB column overheads piping from the top section of the column to the capper was not identified as LDAR piping. Corrective Action: Added to LDAR implementation plan. Zero of 87 valves were 2 of 553 connectors were leaking. Repaired.

EU321-11 (FGRULE290)

This is a batch kettle process. Silicone is dissolved in xylene. Water generated from the process is removed as waste. The product is drummed off for sale. Emissions vent through scrubber 7158, then 7170, then 4776, THROX, and then to atmosphere. Vents to THROX to comply with Group 1 control requirements.

6908 process consists of a 1000 gallon kettle, a water trap, a 300 gallon receiver, a carbon block condenser and a city water fed venturi scrubber. Three different types of products are made, capped MQ resins, bodied MQ resins and MQ resin cold blends.

Capped MQ resins are made by adding MQ resin, Xylene, TFAA, and PL fluid into the kettle. The TFAA is added through cat adder. The kettle is then heated and held for reaction. The ammonia that is generated is sent to 7158 scrubber. Then the kettle is cooled and water and, in some cases, IPA, are added to wash the material. The kettle is then heated to trap off water and IPA. The water and IPA trap, excess xylene is stripped off and collected in 6912 receiver.

Bodied MQ resins are made bodying MQ resin with KOH. The kettle is then heated and held for reaction. During the reaction, water is formed and trapped off. The trapped water is sent to the chemical sewer. The resin can be solvent exchanged or further diluted in xylene. The product can also be neutralized with acetic acid.

MAQ resin cold blends are made by loading different molecular weight MQ resins, mixing them in the kettle and then packaging.

Adding a cold blend of MQ1601 intermediate which will introduce benzene and ethylbenzene emission limits into the emission group.

According to SC III.2.a. of FGRULE290 an air cleaning device for volatile organic compounds shall be installed, maintained, and operated in accordance with the manufacturer's specifications. Emissions from EU321-11 vent through a series of scrubbers; 7158, 7170, 4776, and then to atmosphere. Operating parameters for scrubbers 7158, 7170 and 4776 are 3.0 gpm, 4.3 gpm and 1.6 gpm, respectively.

As part of the records request, I viewed the liquid flow rates for scrubbers 7158, 7170, and 4776, while on site for the time period April 1, 2018 through April 30, 2019. Flows were within the appropriate operating parameters for each scrubber. We viewed the flows for these scrubbers during the inspection. Flows were recorded as follows:

Pollution Control (scrubbers)	Operational Restrictions (gpm)	Instantaneous Reading (gpm)	Secure Process Alarm (SPA) (gpm)	Time
7158	>3	4.9	3	14:12
7170	>4.3	5.1	4.3	14:12
4776	>1.6	4.1	1.6	14:12

VOC emissions from this process unit are exempt from permitting through compliance with R290. As part of the records request, exemption summaries were provided. Based on R290, emissions that are classified as non-carcinogenic VOCs or non-carcinogenic air contaminants with an initial threshold screening level (ITSL) $\geq 2.0 \mu\text{g}/\text{m}^3$, controlled, and non-carcinogenic non-VOCs with an ITSL $\geq 0.04 \mu\text{g}/\text{m}^3$, and are limited to ≤ 500 pounds per month (lbs/month) and ≤ 10 lbs/month.

I reviewed emissions records from January 2018 through December 2018. Emissions were below the R290 limit and constituents appeared to be aligned categorically with R290.

Compliance Reporting

- *Various (22.75 hours) EU321-MON Scrubber flow rate dropped below the required rate on various occasions between 9/10 and 9/17. Required flow rate was determined by a stack test when the process was running, but no process was running at these times, Although the process did contain non-volatile material. Corrective action: Scrubber flow rate set point was raised to include a safety factor above the minimum required flow rate. A programming option was added for the process to vent to the site scrubbers, which satisfy MACT requirements. A MON process operated without Group 1 control. This is an excursion under the CAM rule. Estimated total emissions were less than 1 lb. 1/1/18 EU321-MON, EU340-MON and EU2901-MON*
- *Some of the parametric monitoring values reported in the MON NOCS submitted on 9-15-18 require updates. See report for details.*
- *1/1/2018 EU321-MON
Condenser DV5141 was not included in the NOCS as a large control device for group 1 batch process vents with organic HAP emissions. A performance test was not conducted, and operating parameter limits were not established for the condenser. Condenser DV5141 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the prevue of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.*
- *1/1/2018 EU321-MON
Scrubber DV7158 was not included in the NOCS as a large control device for group 1 batch process vents with hydrogen halide and halogen HAP emissions. A performance test was*

not conducted, and operating parameter limits were not established for the scrubber. However, the scrubber is not necessary to meet emission limits. Condenser DV7158 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the prevue of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.

- **1/1/2018 EU321-MON**
A group 1 by-pass valve in the 321 building was not previously identified. NOCS updated. Electronic records were reviewed by 321 building staff and this by-pass valve was never in the open position while making a group 1 product in calendar year 2018.
- **11/3/2018, EU321-MON (6 minutes)**
Due to a malfunction, a MON process operated without Group 1 control. THROX had 'low flow' signal for the ionizing wet scrubber, due to a malfunctioning flow meter. Diverted to carbon beds, which are a MACT control device. Operators switched back to THROX before they were given the 'all-clear', which routed the 321 process to the site scrubbers instead, which is not a MACT control device. Corrective action: 321 building programming modified to prompt operators to verify THROX is ready to receive vents before diverting from carbon to THROX.
- **Various- EU321-MON**
A MON process operated without Group 1 control. This is an excursion per CAM. Estimate total emissions were less than 1 lb. Process was not operating, but leftover emissions were vented.
- **8/27/2018 EU321-MON**
EBB column overheads piping from the top section of the column to the capper was not identified as LDAR piping. Corrective Action: Added to LDAR implementation plan. Zero of 87 valves were 2 of 553 connectors were leaking. Repaired.

EU321-17 (FGRULE290)

This is a batch kettle process. Reactor 4742 utilizes xylene and silicone to make product. This process does produce MON MACT subject products. During MON production it utilizes the FGTHROX as group 1 control.

According to SC III.2.a. of FGRULE290 an air cleaning device for volatile organic compounds shall be installed, maintained, and operated in accordance with the manufacturer's specifications. Emissions from this process run through a series of scrubbers, 11474, 7170 and 4776 then either atmosphere or FGTHROX, depending on the product being manufactured. Operating parameters for 11474, 7170 and 4776 are 6.5 gpm, 4.3 gpm, and 1.6 gpm, respectively.

As part of the records request, I viewed the liquid flow rates for scrubbers 11474, 7170 and 4776, while on site for the time period April 1, 2018 through April 30, 2019. Flows were within the appropriate operating parameters for each scrubber. We viewed the flows for theses scrubbers during the inspection. Flows were recorded as follows:

Pollution Control (Scrubbers)	Operational Restrictions (gpm)	Instantaneous Reading (gpm)	Secure Process Alarm (SPA) (gpm)	Time
11476	>6.5	8.3	6.5	14:20
7170	>4.3	>4.3	4.3	14:20
4776	>1.6	>1.6	1.6	14:20

VOC emissions from this process unit are exempt from permitting through compliance with R290. As part of the records request, exemption summaries were provided. Based on R290, emissions that are classified as non-carcinogenic VOCs or non-carcinogenic air contaminants with an initial threshold screening level (ITSL) $\geq 2.0 \mu\text{g}/\text{m}^3$, controlled, and are limited to less than or equal to 500 pounds per month (lbs/month).

I reviewed emissions records from May 2018 through April 2019. Emissions ranged from 1.4 lbs in June to 102.78 lbs in October. Emissions were below the R290 limit and constituents appeared to be aligned correctly with R290.

Compliance Reporting

- *Various (22.75 hours) EU321-MON Scrubber flow rate dropped below the required rate on various occasions between 9/10 and 9/17. Required flow rate was determined by a stack test when the process was running, but no process was running at these times, Although the process did contain non-volatile material. Corrective action: Scrubber flow rate set point was raised to include a safety factor above the minimum required flow rate. A programming option was added for the process to vent to the site scrubbers, which satisfy MACT requirements. A MON process operated without Group 1 control. This is an excursion under the CAM rule. Estimated total emissions were less than 1 lb. 1/1/18 EU321-MON, EU340-MON and EU2901-MON*
- *Some of the parametric monitoring values reported in the MON NOCS submitted on 9-15-18 require updates. See report for details.*
- *1/1/2018 EU321-MON
Condenser DV5141 was not included in the NOCS as a large control device for group 1 batch process vents with organic HAP emissions. A performance test was not conducted, and operating parameter limits were not established for the condenser. Condenser DV5141 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the prevue of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.*
- *1/1/2018 EU321-MON
Scrubber DV7158 was not included in the NOCS as a large control device for group 1 batch process vents with hydrogen halide and halogen HAP emissions. A performance test was not conducted, and operating parameter limits were not established for the scrubber. However, the scrubber is not necessary to meet emission limits. Condenser DV7158 is a cascading control device, which EPA has determined, and DOW has agreed, falls under the prevue of the MON. Testing will be performed to meet the large control device limits. A date to complete testing has not been determined at this point.*
- *1/1/2018 EU321-MON
A group 1 by-pass valve in the 321 building was not previously identified. NOCS updated. Electronic records were reviewed by 321 building staff and this by-pass valve was never in the open position while making a group 1 product in calendar year 2018.*
- *11/3/2018, EU321-MON (6 minutes)
Due to a malfunction, a MON process operated without Group 1 control. THROX had 'low flow' signal for the ionizing wet scrubber, due to a malfunctioning flow meter. Diverted to carbon beds, which are a MACT control device. Operators switched back to THROX before they were given the 'all-clear', which routed the 321 process to the site scrubbers instead, which is not a MACT control device. Corrective action: 321 building programming modified to prompt operators to verify THROX is ready to receive vents before diverting from carbon to THROX.*
- *Various- EU321-MON*

A MON process operated without Group 1 control. This is an excursion per CAM. Estimate total emissions were less than 1 lb. Process was not operating, but leftover emissions were vented.

- *8/27/2018 EU321-MON
EBB column overheads piping from the top section of the column to the capper was not identified as LDAR piping. Corrective Action: Added to LDAR implementation plan. Zero of 87 valves were 2 of 553 connectors were leaking. Repaired.*

EU340-01

Calcium chloride process including condensers, scrubbers, columns, vaporizers, storage tanks, compressor, and related equipment. This emission unit is subject to the requirements of 40 CFR Part 63, Subpart FFFF. EU340-01 is a CAM subject emission unit subject to the requirements of 40 CFR Part 64. The most recent PTI for this emission unit is PTI No. 34-04B.

- Absorber (8745A). This device is a CAM subject unit for VOC and Methyl Chloride
- Scrubbers (8745B). This device is a CAM subject unit for VOC and Methyl Chloride

SC III.1. restricts the plant from operating the process unless the scrubbing water flow of scrubber 8745B is greater than 2.5 gpm. This unit is a CAM subject device. An excursion is a scrubbing water flow rate less than 2.5 gallons per minute defined in this condition or demonstrated during testing. SC VI.1. is the associated recordkeeping requirement, which requires the plant to maintain a record of the date, time and duration of every low flow alarm, as well as, the actions taken to restore proper flow for scrubber 8745B. A SPA is set to alarm if the flow falls below 1250 lb/hr or 2.50 gpm. During the inspection the water flow was 13.87 gpm. I also reviewed liquid flow rates of scrubber 8745B for the time period April 1, 2018 through April 30, 2019. Throughout this time period there were several apparent deviations, all were during periods of time when the process was not in operation. Deviations in October and March were due to low jacket water flow while the storage tanks vented. An interlock was put into place on May 30th, 2019. Should be reported again in the September 15th, 2019 ROP deviation report.

SC III.2. restricts operation of the process unless the coolant flow rate of absorber 8745A is greater than 50 gpm. This unit is a CAM subject device. An excursion is a water flow rate less than 50 gallons per minute defined in this condition or demonstrated during testing. SC VI.1. is the associated recordkeeping requirement, which requires the plant to maintain a record of the date, time and duration of every low flow alarm, as well as, the actions taken to restore proper flow for absorber 8745A. A SPA is set to alarm if the flow falls below 50 gpm. During the inspection the water flow was 115 gpm. I also reviewed liquid flow rates of scrubber 8745A for the time period April 1, 2018 through April 30, 2019. Throughout this time period there were several apparent deviations, all were during periods of time when the process was not in operation. Deviations in October and March were due to low jacket water flow while the storage tanks vented. An interlock was put into place on May 30th, 2019. Should be reported again in the September 15th, 2019 ROP deviation report.

SC IV.1. requires the plant to equip and maintain absorber 8745A with a liquid flow indication device. We viewed this device, during the inspection, and it appears to be meeting this requirement.

SC IV.2. requires the plant to equip and maintain scrubber 8745B with a liquid flow indication device. We viewed this device, during the inspection, and it appears to be meeting this requirement.

SC IV.3. requires the plant to calibrate the flow indicators for scrubber 8745B and absorber 8745A. During the inspection we discussed calibrations and the last dates performed were as follows:

Equipment	Description	Preventative Maintenance (Calibration Checks) Date
EU340-01		
FT-1053		

	8745A Jacket Water Flow	09/28/2017 09/30/2018
FT-1054	8745B Water Flow	09/28/2017 09/18/2019

SC VI.2. requires the plant to keep records as required to demonstrate compliance with the emission limits specified in this table. A monthly summary of these emissions shall be made available to the AQD upon request. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission totals specified in this table. The emission limit table restricts Methyl Chloride emissions to 2.6 tpy, based on a 12-month rolling time period and VOCs to 5.0 tpy, based on a 12-month rolling time period. I viewed emissions records for the 12-month rolling time period ending April 2019. Methyl Chloride emissions were 0.05 lbs. and VOCs were 32.24 lbs.

SC VI.9. through VI.12. are associated with CAM recordkeeping and monitoring. The compliance reporting section below references deviations and/or actions taken to mitigate deviations. Activity that pertains to these conditions is discussed in the Compliance Reporting section of this report.

Compliance Reporting

- 10/17/2018 EU340-01 (50 hours)
Underground water line containing service water which feeds the 340 building broke. DOW shut down the production operations venting to 8745A absorber, but storage tanks still held material. Since these were the only vents to 8745A, and scrubber fluid was present and functioning, believe lack of cooling water to absorber jacket did not impact the performance of the control device. Corrective action: Jacket water was brought back online after service water line repair was made. The worst-case estimated emissions during this event as follows: Methane 0.007 lbs. Benzene 0.0035 Hexamethyldisiloxane 0.0265 lbs. HCl 0.002 lbs.
- 1/1/18 EU340-MON (77 days)
DV8745 scrubber operated below 12 gpm for 77 days. Design evaluation showed could meet MON control at 4 gpm. Additionally, hydrogen halide HAP controls devices are condensers DV8827 and DV8735 that operate in parallel and absorber DV8745A. These additional controls were not part of the design evaluation, therefore no excess emissions.
- 1/1/18 EU321-MON, EU340-MON and EU2901-MON
Some of the parametric monitoring values reported in the MON NOCS submitted on 9-15-18 require updates. See report for details.

NAME *[Signature]* DATE 6/26/19 SUPERVISOR *[Signature]*