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

A404325159

FACILITY: Dow Corning - Midland Plant		**SRN / ID:** A4043
LOCATION: 3901 S Saginaw Rd, MIDLAND		**DISTRICT:** Saginaw Bay
CITY: MIDLAND		**COUNTY:** MIDLAND
CONTACT: Mike Gruber , Air & Water Team Leader		**ACTIVITY DATE:** 04/17/2014
STAFF: Jennifer Lang	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MEGASITE
SUBJECT: Scheduled Inspection - EU2504-01, EU2703-03, and EU2901-12		
RESOLVED COMPLAINTS:		

Inspection date: 4/17/14
Inspection started: 9:00 am
Inspection ended: 12:00 pm

Dow Corning and MDEQ-AQD staff present during the inspection.

Jenny Lang (MDEQ-AQD, Environment Engineer Specialist)
Steve Moser (Dow Corning, Assistant General Council)
Mike Gruber (Dow Corning, Air & Water Team Leader)

EU2504-01

Compliance Status: Compliance

Items noted during the inspection.

1. EU2504-01 covers the silicone products manufacturing process including packaging, filtration and cleanout operations. EU2504-01 is equipped with the following air pollution control (APC) equipment: vent recovery system (service water condenser – nos. 24608 and 24610; chilled coolant condenser – nos. 24609 and 24611). Service water condenser no. 24608 vents to chilled coolant condenser no. 24609 in series. Service water condenser no. 24610 vents to chilled coolant condenser no. 24611 in series. Both chilled coolant condensers exhaust through the same vent to atmosphere. Condensers do not alternate in operation.

2. Air Permit to Install (PTI) no. 44-89C covers EU2504-01. This permit was issued on 1/15/09. ROP modification application no. 200900011 was received by the MDEQ-AQD on 1/23/09. This application covers the addition of PTI 44-89C to the ROP. To date, the PTI has not been rolled into the ROP. For the purpose of determining compliance during the inspection, PTI 44-89C was used instead of table EU2504-01 in the current ROP.

3. Condition no. VI.1 of table EU2504-01 of PTI no. 49-89C states, Dow Corning (DC) shall monitor and record, on a continuous basis (i.e., at least once every 15-minutes), the condenser coolant outlet temperature for the chilled coolant condenser. Condition no. III.1 of the same table in the PTI states, permittee shall not operate the process, except for packaging and filtration, unless the vent recovery system is installed and operating properly. Proper operation of the recovery system includes a maximum coolant outlet temperature of 40 degrees F. At approximately 10:24 am, I observed the following operational parameter data for chilled coolant condenser nos. 24609 and 24611 in the control room for EU2504-01 at Building 2504. Tom Kret (DC Manufacturing Engineer) provided the data. The chilled coolant condensers (including the service water condensers) control emissions from various kettles at EU2504-01. DC was operating equipment which vents to the condensers (i.e., the vent recovery system) at the time of my inspection.

Operational Parameter	Observed Value	Alarm Set Point**
Condenser 24609 coolant outlet temperature	27.6 degrees F (instantaneous)	Hi-Hi ≥ 38 degrees F Secured Process Alarm (SPA) ≥ 40 degrees F

Condenser 24611 coolant outlet temperature	27.8 degrees F (instantaneous)	Hi-Hi ≥ 38 degrees F SPA ≥ 40 degrees F

**All alarm set points are instantaneous. SPA limits cannot be changed by an operator.

4. Condition no. VI.2 of table EU2504-01 of PTI no. 44-89C states, DC shall maintain production records and other records in sufficient detail to demonstrate compliance with the emission limits specified in table EU2504-01. I did not request a copy of this information during my inspection as it's confidential, and it's my assumption that this information is included in the 12-month rolling time period emission calculation discussed in item no. 5 below.

5. Condition no. VI.3 of table EU2504-01 of PTI no. 44-89C states, within 30 days following the end of each calendar month, DC shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits in table EU2504-01. Condition no. I.2 of the same table in the PTI limits VOC emissions from EU2504-01 to 12.5 tpy (based on a 12-month rolling time period as determined at the end of each calendar month). During the inspection, I asked for the 12-month rolling total VOC emissions through February 2014 for EU2504-01. On 4/22/14, I received the requested information. According to data provided by DC (see attached), the 12-month rolling total VOC emissions through February 2014 for EU2504-01 was 1.8 tpy.

6. Condition no. IX.3 of table EU2504-01 of PTI no. 44-89C states, DC shall comply with all requirements of 40 CFR Part 64 (CAM). According to the latest ROP deviation report received on 3/14/14 for reporting period 1/1/13 through 12/31/13, there were no CAM excursions and/or exceedances or monitor downtime incidents for EU2504-01.

EU2703-03

Compliance Status: Compliance

Items noted during the inspection.

1. EU2703-03 covers the chloropropyl trichlorosilane (CPTC) process. EU2703-03 is equipped with the following APC equipment: vent compressor 22790, vent condenser 22795, venturi scrubbers 9390 A and B (scrubbers alternate in operation and act as backup for one another), and FGTHROX. Table EU2703-03 of ROP No. MI-ROP-A4043-2008 (hereinafter "ROP") also lists FGSITESCRUBBERS as an APC device. However, according to Mike Gruber and the site-wide malfunction abatement plan (MAP), this emission unit does not vent to FGSITESCRUBBERS. According to Pat Horner (DC Mfg. Engineer), EU2703-03 vents to FGTHROX 95% of the time. The remaining 5% of the time, it's venting to its legacy or backup control equipment (i.e., vent compressor 22790 and condenser 22795 (in series), and venturi scrubbers 9390 A or B). It should be noted that emissions do not pass through the legacy or backup control equipment prior to the THROX (i.e., legacy control equipment vents directly to atmosphere).

   I did not inspect FGTHROX during my inspection as I previously inspected it on 11/13/13 and found it to be in compliance with air quality rules and regulations. EU2703-03 and the THROX were operational at the time of my inspection. Operation of this emission unit is covered by the site-wide malfunction abatement plan (MAP).

2. Condition no. VI.1 of table EU2703-03 of ROP No. MI-ROP-A4043-2008 (hereinafter "ROP") states, in part, DC shall monitor and record, on a continuous basis (i.e., at least once every 15-minutes), the vapor outlet pressure for vent compressor 22790. Condition no. III.1 of the same table in the ROP states, the vent pressure control valve for vent compressor 22790 shall not open unless the pressure exceeds 200 pounds per square inch gauge. At approximately 10:51 am, I observed the following operational parameter data for vent compressor 22790 in the control room for EU2703-03 at Building 2703. Pat Horner (DC Manufacturing Engineer) provided the data. Since emissions from the process were being treated by the THROX at the time of my inspection, the compressor was not acting as APC equipment, and therefore, was not subject to the requirements of condition no. III.1 in table EU2703-03 of the ROP.

Operational Parameter	Observed Value	Alarm Set Point**

Compressor 22790 vapor outlet pressure	124.8 psig (instantaneous) – See discussion above regarding an observed value of < 200 psig.	Valve interlock set at ≥ 200 psig

**All alarm set points are instantaneous.

3. Condition no. VI.1 of table EU2703-03 of ROP No. MI-ROP-A4043-2008 (hereinafter "ROP") states, in part, DC shall monitor and record, on a continuous basis (i.e., at least once every 15-minutes), the exhaust gas temperature for vent condenser 22795. Condition no. III.2 of the same table in the ROP states, the exhaust gas temperature for vent condenser 22795 shall not exceed 10 degrees Celsius. At approximately 10:51 am, I observed the following operational parameter data for condenser 22795 in the control room for EU2703-03 at Building 2703. Pat Horner (DC Manufacturing Engineer) provided the data. Since emissions from the process were being treated by the THROX at the time of my inspection, the condenser was not acting as APC equipment, and therefore, was not subject to the requirements of condition no. III.2 in table EU2703-03 of the ROP.

Operational Parameter	Observed Value	Alarm Set Point**
Condenser 22795 exhaust gas temperature	-15 degrees C (instantaneous)	Hi-Hi ≥ 8 degrees C Hi ≥ 5 degrees C

**All alarm set points are instantaneous.

4. Condition no. VI.1 of table EU2703-03 of ROP No. MI-ROP-A4043-2008 (hereinafter "ROP") states, in part, DC shall monitor and record, on a continuous basis (i.e., at least once every 15-minutes), the total scrubber water flow rate for scrubber 9390 A or B (dependent upon which scrubber is receiving process exhaust). Condition no. III.3 of the same table in the ROP states, proper operation of scrubber nos. 9390 A and B means the total scrubber water flow rate for scrubber 9390 A&B shall not be less than 6.0 gallons per minute. At approximately 10:51 am, I observed the following operational parameter data for scrubber 9390 A&B in the control room for EU2703-03 at Building 2703. Pat Horner (DC Manufacturing Engineer) provided the data. Since emissions from the process were being treated by the THROX at the time of my inspection, the scrubber was not acting as APC equipment, and therefore, was not subject to the requirements of condition no. III.3 in table EU2703-03 of the ROP.

Operational Parameter	Observed Value	Alarm Set Point**
Scrubber 9390 A or B total scrubber water flow rate	0 gpm (instantaneous) - See discussion above regarding an observed value of < 6 gpm.	Lo-Lo ≤ 6 gpm Lo ≤ 7 gpm

**All alarm set points are instantaneous.

5. Condition no. VI.2 of table EU2703-03 of the ROP states, in part, within 30 days following the end of each calendar month, DC 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 table EU2703-03. Condition no. I.2 of the same table in the ROP limits VOC emissions from EU2703-03 to 9.0 tpy (based on a 12-month rolling time period as determined at the end of each calendar month). During the inspection, I asked for the 12-month rolling total VOC emissions through February 2014 for EU2703-03. On 4/22/14, I received the requested information. According to data provided by DC (see attached), the 12-month rolling total VOC emissions through February 2014 for EU2703-03 was 0.4 tpy.

6. Condition no. VII.4 of table EU2703-03 of the ROP states, each semiannual report of deviations shall include summary information on the number, duration and cause of CAM excursions and/or exceedances and the corrective actions taken. Condition no. VII.5 of the same table in the ROP states, each semiannual report of deviations shall include summary information on the number, duration and cause (including unknown cause, if applicable) for CAM monitor downtime incidents (other than monitor downtime associated with zero and span or other daily calibration checks, if applicable). According to the latest ROP deviation report received on 3/14/14 for reporting period 1/1/13 through 12/31/13, there were no CAM excursions and/or exceedances or monitor downtime incidents for EU2703-03.

EU2901-12

Compliance Status: Compliance

Items noted during the inspection.

1. EU2901-12 covers the distillation pilot process consisting of distillation columns and ancillary equipment. EU2901-12 is equipped with the following APC equipment: cryogenic condenser.

2. Air PTI No. 125-10A covers EU2901-12. This permit was issued on 5/31/13. ROP modification application no. 201300106 was received by the MDEQ-AQD on 6/14/13. This application covers the addition of PTI 125-10A to the ROP. To date, the PTI has not been rolled into the ROP. PTI 125-10A was used during the inspection for the purpose of determining compliance with air quality rules and regulations.

3. Condition no. VI.1 of table EU2901-12 of PTI no. 125-10A states, in part, DC shall monitor and record, on a continuous basis (i.e., at least once every 15-minutes), the cryogenic condenser's coolant temperature. Condition no. III.1 of the same table in the PTI states, DC shall not operate EU2901-12 unless the cryogenic condenser coolant temperature is -40 degrees F (-40 degrees C) or less, except during the phase separator cleanout operation. At approximately 11:15 am, I observed the following operational parameter data for the cryogenic condenser (HX1-23994) in the control room for EU2901-12 at Building 2901. Amanda Scherer (DC Manufacturing and Quality Engineer) and Chris Sales (DC Team Leader) provided the data. The cryogenic condenser controls emissions from the distillation column. The distillation column was operating at the time of my inspection.

Operational Parameter	Observed Value	Alarm Set Point**
Cryogenic condenser HX1-23994 coolant temperature	-46.6 degrees C (instantaneous)	Hi-Hi ≥ 35 degrees C Hi ≥ 25 degrees C

**All alarm set points are instantaneous.

With regard to the alarm set points for this condenser, Amanda said they were set higher than the limit to avoid excessive alarms. I asked if they'd ever reported Title V deviations for the temperature limit on this condenser, and they couldn't recall ever reporting any. The alarm set point is not a requirement of the ROP. However, I like to check them to make sure the facility is operating the process in compliance with their operational parameter limits in the permit.

4. Condition no. VI.3 of table EU2901-12 of PTI no. 125-10A states, DC shall keep monthly and 12-onth rolling time period records of the VOC emission rate from EU2901-12 on file at the facility and make them available to the Department upon request. Condition no. I.1 of the same table in the PTI limits VOC emissions from EU2901-12 to 7.5 tpy (based on a 12-month rolling time period as determined at the end of each calendar month). During the inspection, I asked for the 12-month rolling total VOC emissions through February 2014 for EU2901-12. On 4/22/14, I received the requested information. According to data provided by DC (see attached), the 12-month rolling total VOC emissions through February 2014 for EU2901-12 was 2.8 tpy.

NAME Jennifer Long DATE 5/19/14 SUPERVISOR C. Hare

Lang, Jennifer (DEQ)

From: steve.moser@dowcorning.com
Sent: Tuesday, April 22, 2014 12:16 PM
To: Lang, Jennifer (DEQ)
Cc: mike.gruber@dowcorning.com
Subject: Information Requested During April 17 Inspection
Attachments: DC006104 - Follow up on EUs 2504-01, 2703-03 and 2901-12.pdf

Jennifer,

Attached is the follow up data you requested during your inspection last week.

Steve

Stephen V. Moser
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Data Requested During 04/17/2014 Inspection

A. **EU2504-01 (ROP Mark-up Condition VI.3.)**
VOC Emissions (12-month rolling total as of end of February 2014): 1.8 TPY (3,528.8 lbs/yr)

B. **EU2703-03 (ROP Mark-up Condition VI.2.)**
VOC Emissions (12-month rolling total as of end of February 2014): 0.4 TPY (776.3 lbs/yr)

C. **EU2901-12 (ROP Mark-up Condition VI.3.)**
VOC Emissions (12-month rolling total as of end of February 2014): 2.8 TPY (5,672.5 lbs/yr)