

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

A404323917

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: 12/11/2013
STAFF: Jennifer Lang	COMPLIANCE STATUS: Compliance	
SUBJECT: Scheduled Inspection - EU207-01, EU207-02 & EU207-03		SOURCE CLASS: MEGASITE
RESOLVED COMPLAINTS:		

Inspection date: 12/11/13
Inspection started: 10:30 am
Inspection ended: 12:45 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)
Jim Spencer (Dow Corning, Air Quality Engineer)

EU207-01

Compliance Status: Compliance

Items noted during the inspection.

- EU207-01 is the silicone rubber manufacturing process. The process is controlled by a glycol condenser (19251) and a baghouse (12912). During the inspection, I was informed that there is a north and south baghouse, and they appeared to be running in parallel during the inspection. The process was running at the time of my inspection.
- Air Permit to Install (PTI) No. 134-08 covers EU207-01. This permit was issued on 6/6/08. ROP modification application no. 200800093 was received by the MDEQ-AQD on 7/17/08. This application covers the addition of PTI 134-08 to ROP No. MI-ROP-A4043-2008 (hereinafter "ROP"). To date, the PTI has not been rolled into the ROP.
- Condition no. V.1 of table EU207-01 of PTI 134-08 states, Dow Corning (hereinafter "DC") shall determine and record the opacity from vent no. SV207-001 on a biannual basis during routine operating conditions. The total duration of the observation shall not be less than 12 minutes. Method 9 shall be used for this determination. Condition no. I.5 of the same table in the PTI states, the opacity from SV207-001 shall not exceed 5%. During the inspection, I requested the most recent biannual opacity observation record for vent no. SV207-001. On 12/13/13, I received the requested data (see attached). According to the data, the required observation was conducted for 15 minutes on 10/30/13. The results of the observation were 0% opacity.
- Condition no. VI.1 of table EU207-01 of PTI 134-08 states, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the exit gas temperature of the glycol condenser (19251). Condition no. IV.3 of the same table in the PTI states, the exit gas temperature of the glycol condenser shall not exceed 40 degrees Fahrenheit (F). At 11:29 am, I observed the following operational parameter data for the glycol condenser (19251) in the control room for EU207-01. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Glycol condenser (19251) exit gas temperature	32.8 F (15-minute average)	≥ 39.5 F (15-minute average)

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32.1 F (instantaneous)

5. Condition no. VI.2 of table EU207-01 of PTI 134-08 states, DC shall monitor and record, on a per shift basis, the pressure drop across the baghouse (12912). Condition nos. 4 and 5 of the same table in the PTI state, if the pressure drop across the baghouse exceeds 10 inches of water, or is less than 0.5 inches of water, the permittee shall implement corrective action and maintain a record of action taken to prevent reoccurrence. At 11:32 am, I observed the following operational parameter data for the baghouse (12912) in the control room for EU207-01. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Baghouse (12912) -- north**	2.4 inches of water (instantaneous)	High: ≥ 9 inches of water (instantaneous) Low: ≤ 1 inches of water (instantaneous)
Baghouse (12912) -- south**	2.6 inches of water (instantaneous)	High: ≥ 9 inches of water (instantaneous) Low: ≤ 1 inches of water (instantaneous)

**According to Travis, these baghouses operate in parallel.

- Condition no. VI.3 of table EU207-01 of PTI 134-08 states, monthly production records of non-PL bases, PL bases and LSR's combined, and LSR's shall be kept on file. I did not ask for these records during the inspection as they are considered confidential, and it's my assumption that these records are used to comply with condition no. VI.4 of the same table in the PTI discussed below.
- Condition no. VI.4 of table EU207-01 of PTI 134-08 states, 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 limits specified in the table. Condition nos. I.2 and 4 of the same table in the PTI limit VOC and ammonia emissions to 18.4 and 30.0 tons per year (tpy), respectively, based on a 12-month rolling time period. During the inspection, I requested the 12-month rolling time period emission calculations through October 2013. On 12/13/13 I received the requested data. According to the data, the VOC and ammonia emission rate was 14.6 and 15.2 tpy, respectively, based on a 12-month rolling time period through October 2013.

EU207-02

Compliance Status: Compliance

Items noted during the inspection.

- EU207-02 covers the treated filler process. This process uses a mixer from EU207-01 to make a product that is not covered by PTI 134-08. Emissions from this process are controlled by a packed column scrubber (19298) and a glycol condenser (19296) in series. Table EU207-02 in the ROP lists the condenser as a "water" condenser. However, according to Travis, this a glycol condenser. During the inspection, Travis also informed me that EU207-02 is equipped with a baghouse (12912). However, the baghouse was not listed as pollution control equipment in table EU207-02 of the ROP. Condition nos. I.7 and 8 of table EU207-02 of the ROP limit particulate matter emissions from this emission unit to 0.10 lbs/1000 lbs. exhaust gas and 0.093 pph.
- Condition no. VI.1 of table EU207-02 of the ROP states, in part, DC shall monitor and record, on a continuous basis, (i.e., an instantaneous data point recorded at least once every 15 minutes), the packed column scrubber liquid flow rate. Condition no. III.3 of the same table in the ROP states the liquid flow rate of the packed column scrubber shall not be less than 20 pounds per minute (lbs/min). At 11:42 am, I observed the following operational parameter data for the packed column scrubber (19298) in the control room for EU207-02. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
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Packed column scrubber (19298) liquid flow rate	59.2 lbs/min (instantaneous)	≤ 20 lbs/min (instantaneous)
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- Condition no. VI.1 of table EU207-02 in the ROP states, in part, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the condenser exit gas temperature. Condition no. III.1 of the same table in the ROP states the exit gas temperature of the condenser shall remain below 15 degrees Celsius (C). At 11:42 am, I observed the following operational parameter data for condenser (19296) in the control room for EU207-02. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Condenser (19296) exist gas temperature	8.1 degrees C (instantaneous)	≥ 15 degrees C (instantaneous)

- Condition no. VI.2 of table EU207-02 in the ROP states, DC shall record the number of batches processed on a monthly basis, and other records necessary to demonstrate compliance with the emission limits specified in table EU207-02. I did not ask for these records during the inspection as they are considered confidential, there's no limit in table EU201-02 regarding number of batches produced, and it's my assumption that these records are used to comply with condition no. VI.3 of the same table in the ROP discussed below.
- Condition no. VI.3 of table EU207-02 in the ROP 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 specified in table EU207-02. Condition nos. I.2, I.4 and I.6 of the same table in the ROP limit VOC, methanol (from vent no. 201-014), and isopropyl alcohol (IPA from vent 201-014) to 8.7, 3.7 and 4.9 tpy, respectively, based on a 12-month rolling time period as determined at the end of each calendar month. During the inspection, I requested the 12-month rolling time period emission calculations through October 2013. On 12/13/13 I received the requested data. According to the data, the VOC, methanol and IPA emission rate was 0.6, 0.2, and 0.4 tpy, respectively, based on a 12-month rolling time period through October 2013.
- Condition no. VII.4 of table EU207-02 in 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 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 9/16/13 for reporting period 1/1/13 through 6/30/13, there were no CAM excursions and/or exceedances or monitor downtime incidents for EU207-02.

EU207-03

Compliance Status: Compliance

Items noted during the inspection.

- Air Permit to Install (PTI) No. 156-06C covers EU207-03. This permit was issued on 4/19/12. ROP modification application no. 201200057 was received by the MDEQ-AQD on 4/19/12. This application covers the addition of PTI 156-06C to the ROP. To date, the PTI has not been rolled into the ROP.
- EU207-03 covers the liquid silicone rubber (LSR) manufacturing batch mixer process. Emissions from this process are controlled by a venturi scrubber (22426) and water scrubbers (nos. 22412 and 23828). PTI No. 156-06C also lists dust collector nos. 19313, 19314, 19328, 22409, and 22419 as air pollution control devices. However, DC believes the dust collectors should be considered process equipment. In my opinion, this seems to be supported by the fact that there are no monitoring and recording keeping conditions for the collectors in the PTI. Further, the collectors precede the water scrubbers prior to discharge to the atmosphere, and several of the mixer vent lines are equipped with silica detectors. In my opinion, these collectors should be removed from the "pollution control equipment" section of the PTI (including condition no. IV.2 of table EU207-03 of PTI 156-06C) once it's rolled into the ROP. Condition no. IV.2 states, DC shall

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not operate EU207-03 unless the fumed silica and crystalline silica dust collector nos. 19313, 19314, 19328, 22409, and 22419 are installed and operating properly. The vents associated with the collectors and silica detectors were not actively venting particulate at the time of my inspection.

3. Condition no. IV.1 of table EU207-03 of PTI 156-06C states, DC shall not operate EU207-03 unless the vent is routed through scrubber system #1 (comprised of scrubber no. 22426 and scrubber no. 22412) and/or scrubber system #2 (comprised of water scrubber no. 23828) and these scrubbers are installed and operating properly. During the inspection, both scrubber systems were operational and receiving vent emissions. According to Travis Clements, DC Manufacturing Engineer, the scrubbers are pressure controlled with a 3-way valve, and scrubber system #2 is the primary scrubber. At 11:48 am, I observed the following instantaneous pressure readings on the vent lines feeding each scrubber system in the control room for EU207-03.

- Scrubber system #1: 1002 MBAR
- Scrubber system #2: 1015 MBAR

4. Condition no. VI.1 of table EU207-03 of PTI 156-06C states, in part, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the water make-up rate for water scrubber nos. 22412 and 23828. Condition nos. III.1 and 3 of the same table in the PTI states, the water make-up rate for scrubber nos. 22412 and 23828 shall be at least 0.2 and 0.7 gpm, respectively, when the process is venting through the scrubbers. At 12:02 pm, I observed the following operational parameter data for scrubber nos. 22412 and 23828 in the control room for EU207-03. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Scrubber 22412 water make-up rate	0.3 gpm (instantaneous)	Low: ≤ 0.25 gpm (instantaneous) Low-Low: ≤ 0.2 gpm (instantaneous)
Scrubber 23828 water make-up rate	0.97 gpm (instantaneous)	≤ 1 gpm (instantaneous)

5. Condition no. VI.1 of table EU207-03 of PTI 156-06C states, in part, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the recycle liquid temperature of water scrubber no. 23828. Condition no. III.5 of the same table in the PTI states, the temperature of the recycle liquid entering water scrubber no. 23828 shall not exceed 68 degrees F. At 12:02 pm, I observed the following operational parameter data for scrubber no. 23828 in the control room for EU207-03. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Scrubber 23828 recycle liquid temperature	59.7 F (instantaneous)	Low: ≤ 34 F (instantaneous) High: ≥ 65 F (instantaneous)

6. Condition no. VI.1 of table EU207-03 of PTI 156-06C states, in part, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the recycle liquid flow rate for water scrubber no. 23828. Condition no. III.4 of the same table in the PTI states, the recycle liquid flow rate of water scrubber no. 23828 shall be at least 20 gpm when the process is venting through the scrubber. At 12:02 pm, I observed the following operational parameter data for scrubber no. 23828 in the control room for EU207-03. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Scrubber 23828 recycle liquid flow rate	25 gpm (instantaneous)	≤ 20 gpm (instantaneous)

7. Condition no. VI.1 of table EU207-03 of PTI 156-06C states, in part, DC shall monitor and record, on a continuous basis (i.e., an instantaneous data point recorded at least once every 15 minutes), the recycle liquid flow rate of venturi scrubber no. 22426. Condition no. III.2 of the same table in the PTI states, the

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recycle liquid flow rate of venturi scrubber no. 22426 shall be at least 15 gpm when the process is venting through the scrubber. At 12:02 pm, I observed the following operational parameter data for venturi scrubber no. 22426 in the control room for EU207-03. Travis Clements, DC Manufacturing Engineer, provided the data.

Operational Parameter	Observed Value	Alarm Set Point
Venturi scrubber 22426 recycle liquid flow rate	22.4 gpm (instantaneous)	≤ 15 gpm (instantaneous)

8. Condition no. VI.2 of table EU207-03 of PTI 156-06C 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 the table. Condition nos. 1.2 and 4 of the same table in the PTI limit VOC and octamethylcyclotetrasiloxane (D4) emissions to 2.9 and 0.18 tpy, respectively. During the inspection, I requested the 12-month rolling time period emission calculations through October 2013. On 12/13/13, I received the requested data. According to the data, the VOC and D4 emission rate was 1.08 and 0.06 tpy, respectively, based on a 12-month rolling time period through October 2013.
9. At 12:15 pm, DC staff provided me with a facility tour. David Breiler, DC Team Leader joined us on the walk through. During the walk through, I observed vent no. SV207-001 of EU207-01 and no visible emissions were observed.
10. EU207-03 is subject to 40 CFR Part 64 (CAM). Pursuant to the requirements of CAM, 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. Each semiannual report of deviations shall also 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 9/16/13 for reporting period 1/1/13 through 6/30/13, there were no CAM excursions and/or exceedances or monitor downtime incidents for EU207-03.

NAME *Jerry King* DATE 12/17/13 SUPERVISOR *C. Place*

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Lang, Jennifer (DEQ)

From: steve.moser@dowcorning.com
Sent: Friday, December 13, 2013 5:05 PM
To: Lang, Jennifer (DEQ)
Cc: mike.gruber@dowcorning.com
Subject: Information Requested During December 11 Inspection
Attachments: EU207-01 Condition V.1. Visible Emission Observation 10-30-2013.pdf; EU207-01, EU207-02 and EU207-03 Rolling 12-month Emissions.pdf

Jennifer,

Attached is the information you requested during your inspection this week. Please note that, for ease of reference, we have included the requested data for all three emission units in the same document.

Best wishes for a happy and healthy Christmas season. See you next year!

Stephen V. Moser
Assistant General Counsel
Dow Corning Corporation
2200 W. Salzburg Rd. - CO1282
PO Box 994
Midland, MI 48686-0994
Phone: 989-496-5843
Fax: 989-496-6663
Email: steve.moser@dowcorning.com

EPA
VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One)
 Method 9 203A 203B Other: _____

Form Number **B2713** Page **1** of **1**
 Continued on VEO Form Number

Company Name **Dow Corning**
 Facility Name **Midland Site**
 Street Address **3901 S. Siglinow Rd.**
 City **Midland** State **MT** Zip **48640**

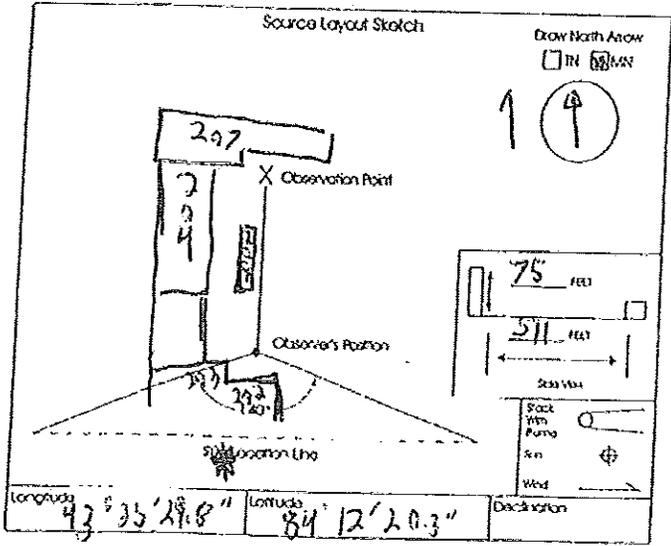
Process **EG-207-01** Unit # _____ Operating Mode _____
 Control Equipment **Bag house + Condensers** Operating Mode **Normal**

Describe Emission Point
EG-207-01
SV-209-021 **Gray Stack**
 Height of Emis. Pt. Start **75'** End **75'** Height of Emis. Pt. Rel. to Observer Start **75'** End **75'**
 Distance to Emis. Pt. Start **511'** End **511'** Direction to Emis. Pt. (Degrees) Start **360°** End **360°**

Vertical Angle to Obs. Pt. Start **9°** End **9°** Direction to Obs. Pt. (Degrees) Start **360°** End **360°**
 Distance and Direction to Observation Point from Emission Point Start **3' above** End **3' above**

Describe Emissions
 Start **None** End **None**
 Emission Color Start **Clear** End **Clear** Water Droplet Plume
 Alashed Detached None

Describe Plume Background
 Start **Clear** End **Clear**
 Background Color Start **Blue** End **Blue** Sky Conditions Start **Clear** End **Clear**
 Wind Speed Start **7 mph** End **7 mph** Wind Direction Start **↖** End **↖**
 Ambient Temp. Start **55°F** End **55°F** Wet Bulb Temp. **60%**



Sec	Time Zone				Start Time	End Time	Comments
	0	15	30	45			
1	0	0	0	0	2:18 PM	2:18 PM	
2	0	0	0	0			
3	0	0	0	0			
4	0	0	0	0			
5	0	0	0	0			
6	0	0	0	0			
7	0	0	0	0			
8	0	0	0	0			
9	0	0	0	0			
10	0	0	0	0			
11	0	0	0	0			
12	0	0	0	0			
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Observer's Name (Print) **James A. Spencer**
 Observer's Signature **James A. Spencer** Date **10/30/13**
 Organization **Dow Corning**
 Conducted By **E-TA** Date **10/07/13**

Data Requested During 12/11/2013 Inspection

A. EU207-01 (ROP Condition VI.4.)

Permit Limits = 30.0 for Ammonia; 18.4 TPY for VOC

EU207-01 12-mo. Rolling Totals (TPY)		
	Ammonia	VOC
November-12	13.0	12.5
December-12	13.4	12.8
January-13	13.6	13.0
February-13	14.0	13.3
March-13	14.1	13.4
April-13	14.0	13.3
May-13	13.6	13.0
June-13	13.7	13.2
July-13	13.8	13.3
August-13	14.0	13.5
September-13	14.8	14.3
October-13	15.2	14.6

B. EU207-02 (ROP Condition VI.3.)

Permit Limits = 3.7 TPY for MeOH; 4.9 TPY for IPA; 8.7 TPY for VOC

EU207-02 12-mo. Rolling Totals (TPY)			
	MeOH	IPA	VOC
November-12	0.2	0.4	0.6
December-12	0.2	0.4	0.6
January-13	0.2	0.4	0.6
February-13	0.2	0.4	0.6
March-13	0.2	0.4	0.6
April-13	0.2	0.4	0.6
May-13	0.2	0.4	0.6
June-13	0.2	0.4	0.6
July-13	0.2	0.4	0.6
August-13	0.2	0.4	0.6
September-13	0.2	0.4	0.6
October-13	0.2	0.4	0.6

C. EU207-03 (ROP Condition VI.2.)

Permit Limits = 0.18 TPY for D4; 2.9 TPY for VOC

EU207-03 12-mo. Rolling Totals (TPY)		
	D4	VOC
November-12	0.06	1.09
December-12	0.06	1.10
January-13	0.06	1.09
February-13	0.06	1.09
March-13	0.06	1.07
April-13	0.06	1.10
May-13	0.06	1.12
June-13	0.06	1.14
July-13	0.06	1.12
August-13	0.06	1.10
September-13	0.06	1.09
October-13	0.06	1.08

DC 006046