

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

FCE Summary Report

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| Facility : Dow Corning - Midland Plant | SRN : A4043 |
| Location : 3901 S Saginaw Rd | District : Saginaw Bay |
| | County : MIDLAND |
| City : MIDLAND State: MI Zip Code : 48686 | Compliance Status : Compliance |
| Source Class : MEGASITE | Staff : Jennifer Lang |
| FCE Begin Date : 10/1/2011 | FCE Completion Date : 8/1/2014 |
| Comments : Periods of non-compliance occurred during the FCE period. Changes were made at the facility to return to compliance. | |

List of Partial Compliance Evaluations :

| Activity Date | Activity Type | Compliance Status | Comments |
|---------------|----------------------------|-------------------|---|
| 07/23/2014 | Scheduled Inspection | Compliance | EU212-01, EU212-12, EU2703-17 & FGRULE290 - Scheduled Inspection |
| 07/18/2014 | Excess Emissions (CEM) | Compliance | Boiler nos. 12,13,14 and THROX - NOx/O2 CEMS quarterly report & gas cylinder audit results. No excess NOx emissions reported for the quarter. Gas cylinder audits confirm each CEMS performed within the 15% error limit. CEMS downtime ranged from 0.14% to 1.28% for each of the monitors during the quarter. |
| 07/10/2014 | Malfunction Abatement Plan | Compliance | Updated FGSITESCRUBBERS MAP to reflect recent engineering calculations for 98% removal efficiency of Methanol, Ethanol and IPA. |
| 07/10/2014 | ROP Other | Compliance | 2014 Fugitive Dust Control Plan - Covers section nos. 1 and 2 of the ROP. |
| 06/24/2014 | Scheduled Inspection | Compliance | EU601-01, EU2703-01 & FGRULE290 - Scheduled Inspection |
| 06/10/2014 | Scheduled Inspection | Compliance | EU601-01, EU2703-01, EU800-01 & EU604-08 - Scheduled Inspection |

| Activity Date | Activity Type | Compliance Status | Comments |
|---------------|----------------------------|-------------------|---|
| 06/02/2014 | Stack Test | Compliance | 40 CFR Part 63, Subpart FFFF (MON) stack test report - 324 Building (EU324-12, EU324-13 & EU324-14) & 25169 Scrubber - EU324-12, EU324-13 and EU324-14 are R290 EUs. Scrubber 25169 achieved the 98% OHAP removal efficiency required by the MON. Average water flow rate for scrubber 25169 measured during the test was 13 gpm. |
| 05/27/2014 | Malfunction Abatement Plan | Compliance | Updated MAP for FGTHROX (version 1.4) - MAP required by PTI 91-07E. |
| 05/19/2014 | Scheduled Inspection | Compliance | FG432BOILERS & FGBOILERS - Scheduled Inspection |
| 05/16/2014 | ROP Other | Compliance | THROX - Updated CEMS Monitoring Plan - Plan updated to include THC analyzer under the MON. |
| 05/15/2014 | Excess Emissions (CEM) | Compliance | Excess emissions report covers boiler nos. 12, 13 and 14, and the THROX. Report includes quarterly cylinder gas audit results. No excess emissions reported for the quarter. CEMS downtime reported for boiler nos. 12, 13 and 14 was less than 1% of the total operating time for each measured pollutant, respectively. CEMS downtime reported for the THROX was < 3% of the total source operating time for each measured pollutant, respectively. |
| 05/15/2014 | CEM RATA | Compliance | THROX RATA for new THC analyzer under the MON. RATA occurred on 3/13/14 and all results indicate compliance. An updated CEMS monitoring plan was submitted to the AQD to include the THC analyzer. |
| 05/15/2014 | CEM RATA | Compliance | RATA for Boilers 12, 13 and 14 at 432 building. The RATA occurred on March 11 - 12, 2014 and all results indicate compliance. |
| 05/09/2014 | MAERS | Compliance | 2013 MAERS Report Certification |
| 05/06/2014 | Scheduled Inspection | Compliance | Scheduled Inspection - EU108-01, EU311-01, EU340-01 & EU340-03 |
| 04/24/2014 | ROP SEMI 2 CERT | Compliance | InEnTec - Facility currently not operating. |
| 04/24/2014 | ROP Annual Cert | Compliance | InEnTec - Facility currently not operating. |

| Activity Date | Activity Type | Compliance Status | Comments |
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| 04/24/2014 | CAM Excursions/Exceedances | Compliance | Dow Corning - Each CAM excursion/exceedance listed in the report was also listed in the semi-annual ROP deviation report. Information regarding corrective action and action taken to prevent recurrence sufficiently resolved each excursion/exceedance. Therefore, a VN was not issued. |
| 04/24/2014 | CAM monitor downtime | Compliance | Dow Corning - No monitor downtime reported. |
| 04/24/2014 | CAM Excursions/Exceedances | Compliance | CAM excursions/exceedances are listed in 1st semi-annual 2013 ROP deviation report. See Ben Witkopp's comments for this report in MACES. |
| 04/24/2014 | CAM monitor downtime | Compliance | No monitor downtime reported. |
| 04/24/2014 | ROP Annual Cert | Compliance | Dow Corning annual Title V deviation report. Information regarding corrective action and action taken to prevent recurrence sufficiently resolved each non-compliance issue. Therefore, a VN was not issued for deviations listed in the report. |
| 04/24/2014 | ROP SEMI 2 CERT | Compliance | Dow Corning semi-annual Title V deviation report. Information regarding corrective action and action taken to prevent recurrence sufficiently resolved each non-compliance issue. Therefore, a VN was not issued for deviations listed in the report. |
| 04/17/2014 | Scheduled Inspection | Compliance | Scheduled Inspection - EU2504-01, EU2703-03, and EU2901-12 |
| 04/10/2014 | Scheduled Inspection | Compliance | EU515-01, EU324-01, EU324-08 & EU325-03 - Scheduled Inspection |
| 04/04/2014 | MACT (Part 63) | Compliance | Semi-Annual Compliance Report - 40 CFR 63, Subpart EEEE (OLD MACT) - Three pressure relief events were reported for tank nos. 5-508 and 5-509. Two of the three events appeared to have started in the first semi-annual reporting period and continued into the second report period. All non-compliance issues appeared to be sufficiently resolved. AQD staff will monitor future reports for similar events. |
| 04/01/2014 | Stack Test Observation | Compliance | 324 Bldg. MON Stack Test - Methanol - EU324-12, EU324-13 & EU324-14 |

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|---------------|------------------------|-------------------|--|
| 03/31/2014 | NESHAP (Part 61) | Compliance | 40 CFR 61 Subpart FF, Section 61.357 Benzene Waste Operations - Total annual benzene for the Midland Site in 2013 was 2.320 Mg. |
| 03/19/2014 | Scheduled Inspection | Compliance | EU502-01, EU502-07, EU505-01 & EU515-01 - Scheduled Inspection |
| 03/13/2014 | Scheduled Inspection | Compliance | EU303-07, EU303-09 & EU304-02 - Scheduled Inspection |
| 03/13/2014 | MACT (Part 63) | Compliance | 40 CFR 63, Subpart FFFF - 324 Building - Methanol Emissions Test Plan - Covers scrubber no. 25169 and emission unit nos. EU324-12, EU324-13 & EU324-14. |
| 02/24/2014 | NESHAP (Part 61) | Compliance | Semi-Annual Benzene NESHAP Report (40 CFR Part 61, Subparts J & V) - No leaks were found during the reporting period. |
| 02/18/2014 | Scheduled Inspection | Compliance | EU303-01, EU303-02, EU303-03, EU303-06 & FGLEAKDETECTION - Scheduled Inspection |
| 02/07/2014 | Scheduled Inspection | Compliance | EU501-01, EU501-02 & EU501-49 - Scheduled Inspection |
| 02/04/2014 | MACT (Part 63) | Compliance | HCl MACT (40 CFR 63, Subpart NNNNN) Semi-Annual Compliance Report |
| 01/29/2014 | Scheduled Inspection | Compliance | Scheduled Inspection - EU321-01, EU322-03, EU322-06 & EU322-11 |
| 01/28/2014 | Excess Emissions (CEM) | Compliance | Excess emissions report covers boiler nos. 12, 13 and 14, and the THROX. Report includes quarterly cylinder gas audit results. No excess emissions reported for the quarter. CEMS downtime reported for boiler no. 14 and the THROX (< 2% of the total source operating time). |
| 01/23/2014 | MACT (Part 63) | Compliance | 40 CFR 63, Subpart NNNNN - Notification of Compliance Status Report. Submittal also includes stack test report for scrubber #24388 (EU356-01), design evaluation for scrubber #24401 (EU356-02), HCl MACT site monitoring plan & HCl MACT LDAR plan. |

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|---------------|----------------------|-------------------|--|
| 01/23/2014 | Stack Test | Compliance | FGTHROX - Testing of THROX exhaust consisted of eleven 21-minute test runs on the flowrate, CO2, and NOx monitors, triplicate 60-minute test runs for PM10, CO, and VOC. Triplicate 60-minute test runs for PM10 were also conducted on the THROX inlet. The emissions test was required by PTI 91-07D. The overall emission summary provided in the test report indicates compliance with applicable emission limits. |
| 01/15/2014 | Stack Test | Compliance | EU601-01 (scrubber 5309) - Testing was performed pursuant to the MON (40 CFR 63, Subpart FFFF) to confirm a TRE of greater than 1.9. MON continuous process vents that have a TRE greater than 1.9 are Group 2 and do not require MACT level control. Average methanol removal efficiency for scrubber 5309 was 98.9%. |
| 01/13/2014 | Scheduled Inspection | Compliance | Scheduled Inspection - EU356-01, EU356-02, EU356-03 & FGHCLMACT |
| 12/19/2013 | Stack Test | Compliance | EU2901-16 (Rule 290 emission unit) - Testing was performed pursuant to the MON (40 CFR 63, Subpart FFFF) to confirm a TRE of greater than 1.9. MON continuous process vents that have a TRE greater than 1.9 are Group 2 and do not require MACT level control. |
| 12/11/2013 | Scheduled Inspection | Compliance | Scheduled Inspection - EU207-01, EU207-02 & EU207-03 |
| 12/05/2013 | Scheduled Inspection | Compliance | EU325-01, FG325-01, FG322-01 & FG322SCRUBBERS - Scheduled Inspection |
| 12/04/2013 | Stack Test | Compliance | Building 601 (scrubber no. 24683) MON compliance stack test report. Testing was conducted on 8/7/13. According to the report, the methanol removal efficiency of the scrubber was 99.9%. The MON requires an OHAP removal efficiency of 98% or an outlet concentration of equal to or less than 20 PPM OHAP. Scrubber No. 24683 achieved the required 98% OHAP removal efficiency. |

| Activity Date | Activity Type | Compliance Status | Comments |
|---------------|------------------------|-------------------|--|
| 11/26/2013 | Scheduled Inspection | Compliance | EU508-01, FG334VENTRECOVERY & FG337SCRUBBER - Scheduled Inspection |
| 11/25/2013 | Excess Emissions (CEM) | Compliance | Excess emissions report covers boiler nos. 12, 13 and 14, and the THROX. Report includes quarterly cylinder gas audit results. |
| 11/21/2013 | Stack Test Observation | Pending | FGTHROX stack test for PM10, VOC & CO. Test required by PTI No. 91-07D. See comments for activity date 1/23/14. |
| 11/15/2013 | Stack Test | Compliance | FGTHROX RATA & stack test plan. This testing is required by PTI no. 91-07D. The CEMS consists of flow rate, NOx and CO2 monitors. RATA testing is required by the PTI and 40 CFR Part 60. PM10, VOC and CO testing is required by the PTI. |
| 11/13/2013 | Scheduled Inspection | Compliance | Scheduled Inspection: FGSITEBLOWER, FGTHROX, FGSITESCRUBBERS, FGBULKMOVE, FGHP2012A2A & FGFACILITY. All FG's currently covered by Air PTI No. 91-07D and ROP Minor Modification Application No. 201300066. |
| 10/22/2013 | ROP Semi 1 Cert | Compliance | DCCMP - Many deviations were stack characteristic related discovered in late 2012 that had yet to be corrected in early 2013. Others were for releases that had previously been reported. A few that were new consisted of control device parameters that were run out of spec for short periods. Lastly, two were for PRV being open on tanks 508 and 509 in 505 building. This was primarily due to incorrect set points for alarms. Though the deviation duration was relatively long, the emissions were ultimately found to be low as determined by the company. The PRV were open intermittently, and when open, it was only very slightly. When the PRV were open, Toluene emissions from tank 508 were 2.2 #/hr while Xylene emissions from tank 509 were 0.83 #/hr. |
| 10/21/2013 | Stack Test Observation | Compliance | EU356-01 Stack Test Observation - 40 CFR Part 63, Subpart NNNNN - PTI No. 29-07B |

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| 10/17/2013 | Stack Test | Compliance | EU501-02 or 1107 process unit - 40 CFR Part 63, Subpart FFFF (MON) stack test report. Stack test conducted on 8/21/13 and 8/22/13 on scrubber DV7585. Results demonstrate compliance with the MON requirement of a 99% removal efficiency for halogen emissions. |
| 10/14/2013 | Stack Test | Compliance | RATA test report for the THROX covered by PTI No. 91-07D. Test performed on 8/20/13 by BT Environmental Consulting, Inc. Test required because the pitot tube was relocated within the stack. Test results indicated the relative accuracy of the THROX exhaust stack flowrate monitor is 9.7% which is less than the corresponding limit of 20%. |
| 10/10/2013 | ROP Semi 1 Cert | Compliance | InEnTec |
| 10/02/2013 | MACT (Part 63) | Compliance | 40 CRF 63 Subpart EEEE Organic Liquid Distribution Several components removed since they were determined to be outside of EEEE reg. |
| 08/29/2013 | NESHAP (Part 61) | Compliance | Semi-annual benzene fugitive emissions report |
| 08/19/2013 | MACT (Part 63) | | Pre-compliance report required by MON regulation 40 CFR Part 63 Subpart FFFF. It was previously received July 15, 2013 directed to DEQ. EPA said the request for alternative monitoring must be made directly to them, hence this second request. |
| 08/05/2013 | MACT (Part 63) | Compliance | HCI MACT semi-annual compliance report - short time period due to recent process initiation |
| 07/29/2013 | Excess Emissions (CEM) | Compliance | Boilers #12, 13, 14 and THROX, qtrly cylinder gas audit results |
| 07/22/2013 | MACT (Part 63) | | Pre-compliance report required by MON 40 CFR Part 63 subpart FFFF. It requested approval of alternative monitoring. That is handled by EPA. This info was relayed to the company. |
| 07/03/2013 | Stack Test | Compliance | Permit 84-08A 304 Vent recovery VOC and Benzene testing. results were below limits. |
| 06/18/2013 | MAERS | Compliance | MAERS PINTO emissions increased due to prolonged THROX shutdown. Typos were found on storage tank information. |

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| 06/11/2013 | Stack Test | Compliance | Testing performed on 4/30/13 for Throx (PM10) results well below permit limits |
| 06/04/2013 | Release Reports | | EU325-01 HCL release - max of 22.8 pounds released from condenser head failure (pinhole size leak). Eventually vented to 337 scrubbers. No VN due to type of situation. |
| 05/10/2013 | Telephone Notes | Non Compliance | HCl release from EU 325-01 |
| 05/08/2013 | ROP Other | Compliance | FGHCLMACT - DCCMP has begun HCL production in concentration more than 30%. |
| 05/07/2013 | Excess Emissions (CEM) | Compliance | Qtr. Excess Emissions Report for Steam Boilers 12, 13, 14. Values within range. Cylinder gas audits for 432 boilers were done during RATA and not included in this report. |
| 05/02/2013 | CEM RATA | Compliance | RATA for Steam Boilers 12, 13, and 14. Done on 3/5 - 3/7. All values well within range. |
| 05/02/2013 | Release Reports | | 316 Building Flange problem in section of pipeline isolated for maintenance resulted in Chloromethane release. Amounts reported likely on the very high side as it was assumed the pipeline was full. AQD management said - no VN based on situation. |
| 04/29/2013 | Telephone Notes | | Ammonia release - EU322-03 |
| 04/16/2013 | NESHAP (Part 61) | Compliance | Annual Benzene Waste Operations Report - Source Wide Requirement, Part 61, Subpart FF 0.513 Mg sent offsite |
| 04/15/2013 | Telephone Notes | | NRC 1044021 via PEAS coordinator email at 14:25. Release of Chloro methane from leaking flange. Incident occurred 13:45. Quantity unknown at the time. |
| 03/28/2013 | ROP Annual Cert | Non Compliance | DCCMP - Deviations consisted of stack characteristic discrepancies. Also control device operational conditions being out of range for short periods, and data acquisition problems. Other items were already reported and there is not a need for new VNs. |

| Activity Date | Activity Type | Compliance Status | Comments |
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| 03/28/2013 | ROP SEMI 2 CERT | Non Compliance | DCCMP - Several had been previously reported at the time of occurrence. Others involved newly discovered discrepancies in stack characteristics. Still other involved control equipment operating parameter problems, typically of short duration. New VN not needed. |
| 03/28/2013 | ROP Annual Cert | Compliance | InEntec - syn gas had low btu content. Not much that can be done due to nature of the process. VN not justified. |
| 03/28/2013 | ROP SEMI 2 CERT | Compliance | InEntec - low BTU content in syngas. VN not justified. |
| 03/26/2013 | MACT (Part 63) | Compliance | Subpart EEEE 1 pump found to be leaking |
| 03/21/2013 | Telephone Notes | | PEAS Incident # 6067 |
| 03/04/2013 | MACT (Part 63) | Compliance | Boiler MACT (DDDDD) initial notification. 3 large boilers in 432 building above 100 mmbtu, 7 between 10 and 100, 2 boilers less than 10mmbtu, and one rated at 25mmbtu. |
| 02/26/2013 | NESHAP (Part 61) | Compliance | Semi-annual Benzene NESHAP One pump failure which was then quickly isolated and replaced. |
| 01/31/2013 | Stack Test | Compliance | Nov 27 & 28 THROX stack test. |
| 01/30/2013 | CEM RATA | Compliance | |
| 12/19/2012 | CEMS Test Observation | | |
| 11/29/2012 | Release Reports | Non Compliance | EU508, tank 37 total of 5.6 # VOC emitted in excess of limit. The limit is 30 pph and it was exceeded by 1-2 pph. This total occurred over 2 days and 4 different hours. It was caused by a pressure regulator left in bypass mode after maintenance. AQD management said no to sending a VN. |
| 09/20/2012 | MACT (Part 63) | Compliance | 40 CFR 63 Subpart EEEE Organic Liquid Distribution |

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| 09/20/2012 | ROP Semi 1 Cert | Non Compliance | DCCMP Most all deviations were for brief minor exceedances of temp or flow requirements. In two other caes the 10 pph ethylbenzene emission limit was exceeded primarily due to using updated emission factors. In one incident involving acetylene emissions a plugged scrubber was found to be at fault. Though the length of time was unknown the DP of the scrubber is being monitored along with a insp/clean schedule. Based on the info provided no VN is needed. |
| 09/20/2012 | ROP Semi 1 Cert | Compliance | InEnTec |
| 08/15/2012 | Release Reports | Non Compliance | 7-27-12 Carol Shea of Corning reported PEAS Incident #5123 for 7-26-12. Release of ~268.2# of toluene and ~72.3# of xylene at Midland Plant at ~12:30 a.m. Clean-up was conducted internally, using a clay-based absorbent. Recovered 172.1# of toluene and 45# of xylene. 8-7-12 rule 912 letter said a valve on the bottom of a receiver leaked spraying material onto the floor at 505 bldg. Action was quickly taken to contain and recover material. AQD management said no to sending a VN given the situation. |
| 08/15/2012 | Excess Emissions (CEM) | Compliance | Boilers #12, 13, 14 and THROX, 2nd Qtr 2012 results within range. |
| 08/14/2012 | NESHAP (Part 61) | Compliance | Semi-annual benzene NESHAPS |
| 07/24/2012 | Stack Test | Compliance | VOC testing in 322 Bldg FG322-01 Results well under permit limits. |
| 07/24/2012 | Release Reports | Non Compliance | Rule 912 report received for 7-12-12 release. A control card failure resulted in a vent being diverted from the THROX to scrubbers. It occurred in the 2703 building. VOC limit for 2703-03 is 4.6 pph and 5.5 pph was emitted for 4 hrs. Based upon the nature of the failure a VN was not sent. |
| 07/16/2012 | Telephone Notes | Unknown | PEAS incident #5053 |
| 07/12/2012 | Stack Test | Compliance | THROX stack test - PM-10 91-07B had 8 tpy limit, test results showed 3.36 |
| 07/03/2012 | MAERS | Compliance | InEnTec - Company adequately addressed issues raised to them |

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| 07/03/2012 | MAERS | Compliance | Cert received; electronic notification 3/14. DCCMP had been using Texas E. F. for blast cleaning operation. Told Co to use MAERS E.F. after AQD staff had discussed with Texas. Co to use MAERS E.F. |
| 06/06/2012 | Stack Test | Compliance | Xylene stack testing on 322 building - results well below permit limits for FG322-01. |
| 05/02/2012 | Excess Emissions (CEM) | Compliance | EEM report for 432 boilers. CGA not included for boilers due to RATA being performed. NOX from TTHROX is discontinued due to revised permit. |
| 04/26/2012 | Stack Test | Compliance | RATA on 432 boilers 12, 13, 14. Results were well within range. |
| 03/29/2012 | ROP Annual Cert | Non Compliance | DCCMP - Most involved control equipment operating conditions for brief periods. Others concerned either data acquisition or storage problems. Ethylbenzene emissions exceeded permit limits due to use of new emission factors, production now being limited. No new VNs needed. |
| 03/29/2012 | ROP SEMI 2 CERT | Non Compliance | DCCMP - Most are control device op parameters being exceeded. One was data control system problem. Another involved a release. No new VNs needed. |
| 03/29/2012 | MACT (Part 63) | Compliance | Benzene waste operations - 40 CFR Subpart EEEE Organic Liquid Distribution. |
| 03/29/2012 | ROP Annual Cert | Compliance | InEnTec - Had a gas feed valve problem which was corrected. Also low btu content of syngas so the alarm level was set higher to trigger quicker action. |
| 03/29/2012 | ROP SEMI 2 CERT | Compliance | InEnTec - Syngas going to flare during first part of January for a total of 36.5 hrs. Co. had PTI app in to address need for more flexibility which was issued 1-20-11. |
| 03/29/2012 | NESHAP (Part 61) | Compliance | Part 61 Subpart FF for Benzene Waste Operations. 1.47 Mg sent off site. |
| 03/29/2012 | ROP Annual Cert | Non Compliance | InEntec - Syngas was being directed to flare during process startup. Co. submitted PTI to get flexibility. No VN needed. |

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| 03/29/2012 | ROP SEMI 2 CERT | Non Compliance | InEntec - low Btu content of syn gas so alarm setting was changed. Also had a valve problem on natural gas feed which threw off the syngas ratio in fuel feed to the boiler. Valve repaired. No VN needed. |
| 02/21/2012 | NESHAP (Part 61) | Compliance | Semi-annual reporting for benzene fugitive emissions program |
| 02/07/2012 | ROP Qrtly Cert | Compliance | Excess emissions Boilers 12, 13, 14 and THROX. Qtrly cylinder gas audit results. Note the audits for Throx weren't done in the 4th qtr as the RATA was performed then. |
| 01/11/2012 | Stack Test | Non Compliance | THROX PM testing - PM10 limits exceeded |

Name: *J. J. Jorgensen*

Date: 8/1/14

Supervisor: *C. Hare*