

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

A404325623

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: 05/19/2014
STAFF: Jennifer Lang	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: FG432BOILERS & FGBOILERS - Scheduled Inspection		
RESOLVED COMPLAINTS:		

Inspection date: 5/19/14
Inspection started: 9:00 am
Inspection ended: 12:25 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)

FG432BOILERS

Compliance Status: Compliance

Items noted during the inspection.

1. FG432BOILERS covers three natural gas fired boilers (i.e., EUBOILER12, EUBOILER13, and EUBOILER14). Each boiler is rated at 103 MMBTU/hr with low-NOx burners.
2. Condition no. III.1 of table FG432BOILERS of ROP No. MI-ROP-A4043-2008 (hereinafter "ROP") states, in part, Dow Corning (DC) shall not operate FG432BOILERS unless a plan that describes how emissions will be minimized during startup(s), shutdown(s) and malfunction(s) has been approved by the AQD District Supervisor. Modifications to this plan may be made by DC, and must be submitted to the AQD District Supervisor for approval. Unless notified by the District Supervisor within 30 business days, the original plan and any future modified plans shall be deemed approved. The latest plan on file at the AQD district office was received on 4/18/13. There is no approval letter for this plan in the district file. In an email dated 6/9/14, DC confirmed that this is the latest plan, and that they never received written approval of the plan from the MDEQ-AQD. Based upon condition no. III.1 of table FG432BOILERS of the ROP, this plan is considered approved since its been more than 30 days since it was originally submitted.
3. Condition no. V.1 of table FG432BOILERS of the ROP states, in part, within 180 days after commencement of trial operation, verification of CO emission rates from each boiler included in FG432BOILERS, by testing at owners expense, in accordance with Department requirements, will be required. DC must complete the test once every five years of operation. DC conducted testing at three different loads on EUBOILER13 on March 5 & 6, 2013. Test results indicate actual CO emissions ranged from 0% - 5.4% of the limit (i.e., 81.2 tpy). Prior to this test, DC conducted CO testing on EUBOILER12 in 2008. DC and I discussed the fact that the condition requires each boiler to be tested once every five years. However, since these are identical boilers, and it's my assumption that the agreement to test one boiler (as opposed to all three) was approved during the test plan review/approval process, I do not consider this a non-compliance issue. I suggested to DC that the requirement to test "each" boiler every 5 years be modified to reflect the current test plan scenario during the ROP renewal process.
4. Condition no. V.2 of table FG432BOILERS of the ROP states, in part, within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of trial operation, DC shall verify NOx emission rates from each boiler included in FG432BOILERS as required by the federal Standards of Performance for New Stationary Sources, by testing at owner's expense, in accordance with 40 CFR Part 60, Subparts A and Db (40 CFR 60.46b(e)). I could not find the results

of this test in the file. Therefore, I asked Mike if he could provide me with a copy of the summary of results for the boilers. Mike said he'd provide the information. Mike also indicated that they confirm compliance with the NOx emission rate limit (i.e., 0.041 lb/MMBTU) during their annual RATA test (although it's not required).

In an email dated 6/9/14, DC informed me that they could not find the summary of results for the NSPS Db stack test required by condition no. V.2. According to Mike, the original test was conducted in 2007. Since its been more than 5 years since the test, Mike thinks the test report is at their records retention center. Mike offered to search further for the report, but I told him that wasn't necessary. It should be noted that their 2014 NOx RATA report indicated compliance with the lb/MMBTU emission limit specified in the ROP for each of the boilers. Mike also provided the results of the 2008 RATA (see attached) which also indicated compliance with the lb/MMBTU NOx emission limit for each of the boilers.

5. Condition no. VI.2 of table FG432BOILERS of the ROP states, the permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the NOx emissions for each of the three boilers included in FG432BOILERS on a continuous basis and according to the procedures outlined in Appendix 3. I pointed out during my inspection that the ROP does not contain the procedures referred to in Appendix 3. Therefore, I had to refer to the original air permit for the procedures (i.e., Air PTI no. 112-06). According to condition no. 1 in Appendix A of the PTI, within 30 calendar days of issuance of the PTI, DC shall submit two copies of a monitoring plan to the AQD for review and approval. The latest monitoring plan we have on file at the district was received on 12/18/06 (dated 12/14/06). I was not able to find an approval letter in the file for this plan. Mike was going to check to see if this is the latest plan and whether or not it'd been approved. Mike confirmed in an email dated 6/9/14 that 12/14/06 is the latest version of the monitoring plan. Based on my understanding of the RATA review and approval process by the AQD's Technical Programs Unit (TPU), it's my assumption that approval of the plan is moot at this point as it's basically approved following review of the annual NOx RATA test results.

Condition no. 7 of Appendix A of PTI no. 112-06 states, in part, each calendar quarter, DC shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Within 30 days following the end of each calendar quarter, DC shall submit the results to the AQD.

Condition no. 8 of Appendix A of PTI no. 112-06 states, in part, in accordance with 40 CFR 60.7(c) and (d), DC shall submit two copies of an excess emission report and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter.

Pursuant to these requirements, DC submitted their 1st quarter 2014 report on 5/1/14. This report included the required excess emission report. However, it did not include the cylinder gas audit (CGA) summaries for FG432BOILERS because a RATA was performed during the quarter (on March 11-12, 2014). According to the report, there were no excess emissions during 1st quarter 2014. Monitor downtime ranged from 0.09% - 2.69%. The latest RATA results for FG432BOILERS were received on 5/12/14. According to the results, DC passed the RATA for the NOx and O2 CEMS.

6. According to section 3 (page 14) of DC's NOx/O2 CEMS monitoring plan, a two-point calibration drift check on each range of each pollutant gas monitor must be performed at least once per unit operating day (24 hours) using the following concentrations:

For pollutant and diluent monitors:

Low-level: 0 – 20% of span
High-level: 50-100% of span

All analyzer responses during calibration are recorded by CEMDAS 2000TM. According to Rob Seibert (DC Power & Utilities Team Leader), the NOx and O2 CEMS are calibrated every day at 7 am.

During the inspection, I requested a copy of the daily calibration on 5/19/14 for the NOx and O2 CEMS. On 6/9/14, I received the requested information (see attached). According to the information, DC conducted the daily calibration shortly after 7 am using zero and span gas on the NOx and O2 CEMS at boiler nos. 12, 13 and 14. All results indicated the CEMs units "passed".

7. Condition no. VI.3 of table FG432BOILERS in the ROP states, in part, DC shall keep the following records for each boiler included in FG432BOILERS, for each calendar day pursuant to the requirements of 40 CFR 60.49b:
- Calendar date
 - Average hourly NOx emission rate in lb/MMBTU heat input
 - 30-day average NOx emission rate in lb/MMBTU heat input, calculated at the end of each operating day from the hourly NOx emission rates for the preceding 30-days
 - Identification of the "F" factor used for calculations, method of determining "F" factor and type of fuel combusted

At 11:24 am, I observed the following data for EUBOILER12, EUBOILER13 and EUBOILER14 at Building 432. A hard copy of this data was provided by DC on 6/9/14 (see attached). Rob Seibert (DC Power & Utilities Team Leader) provided the data. At the time of my inspection, all three boilers were running.

	Average hourly NOx emission rate in lb/MMBTU heat input	30-day average NOx emission rate in lb/MMBTU heat input as of 5/18/14**
EUBOILER12	0.037	0.031
EUBOILER13	0.031	0.030
EUBOILER14	0.029	0.024

**Calculated at the end of each operating day from the hourly NOx emission rates for the preceding 30-days.

With regard to the "F" factor, Mike Gruber indicated it is the same for all three boilers which only burn natural gas. At 11:44 am, I observed a "F" factor for EUBOILER12, EUBOILER13 and EUBOILER14 of 8710 scf/MBTU. A hard copy of this data was provided by DC on 6/9/14 (see attached). Table 19-2 in Method 19 specifies a F factor of 8710 dscf/MBTU.

8. Condition no. VI.4 of table FG432BOILERS of the ROP states, DC shall keep monthly and 12-month rolling average fuel use records and the annual capacity factor for each boiler included in FG432BOILERS. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each month. During the inspection, I requested this information through April 2014. During an unrelated inspection on 6/10/14, DC presented me with the requested information but said they considered it confidential. As a result, I suggested DC send me the information once it had been properly processed on their end, and I'd shred it once I was done reviewing it as I was not interested in holding it as confidential information in the district file. DC agreed to this approach. In an email dated 6/23/14, I received the requested information. Based upon this information, DC is maintaining the required records.
9. Condition no. VI.5 of table FG432BOILERS of the ROP states, DC shall keep 24-hour rolling average NOx emission records for each boiler included in FG432BOILERS, as required by SC I.1 of the same table in the ROP. SC I.1 of the same table in the ROP limits NOx emissions from each boiler to 0.041 lb/MMBTU, based on a 24-hour rolling average as determined each hour. During the inspection, it was discovered that DC does not maintain a record of the 24-hour rolling average NOx emissions from each boiler. However, DC does maintain a record of the 1-hour and 24-hour block (i.e., calendar day) NOx emissions from each boiler. DC also indicated that each boiler alarms based on 1-minute NOx emissions data. During the inspection, I asked DC to show me their 1-minute alarm setpoints for NOx. Rob Seibert was not able to show me the alarm, but said he would find someone who could and Mike agreed to email me the setpoints. On 6/9/14, I received the requested 1-minute alarm setpoints (see attached). Based upon this information, EUBOILER12, EUBOILER13 and EUBOILER14 alarm at the following 1-minute NOx alarm setpoint: 0.041 lbs/MMBTU NOx. During an unrelated inspection on 6/10/14, Mike informed me that they expect the 24-hour rolling average NOx issue to be resolved by 6/13/14. Mike and Steve agreed to send confirmation that the issue has been

resolved. On 6/23/14, I received confirmation that the 24-hour rolling average NOx issue has been resolved (see attached).

This issue was discussed with Chris Hare (AQD District Supervisor), and it was determined that a violation notice would not be written for this based upon the following:

- a) The boilers are equipped to alarm operations personnel based on 1-minute NOx data which is more conservative than a 24-hour rolling number.
- b) DC has corrected the situation and is currently recording the 24-hour rolling average NOx emissions.
- c) According to 60.44b(i), except as provided under paragraph (j) of NSPS 60.44b, compliance with the emission limits under this section is determined on a 30-day rolling average basis. NSPS 60.44b(a)(1) limits NOx emissions from each boiler to 0.10 lb/MMBTU.
- d) DC had 0 % excess NOx emissions in 2013 and 1st quarter 2014, so it's unlikely that calculating emissions on a 24-hour block average vs. a 24-hour rolling average basis would have made a difference in terms of compliance.

It should also be noted that the compliance status of FG432BOILERS was marked as "compliance" as the non-compliance issue was resolved upon completion of my report.

10. Condition no. VI.6 of table FG432BOILERS of the ROP states, in part, DC shall keep monthly and 12-month rolling average CO calculation records for FG432BOILERS, as required by SC I.2 of the same table in the ROP. SC I.2 of the same table in the ROP states, CO emissions from FG432BOILERS shall not exceed 81.2 tpy. During the inspection, I requested the 12-month rolling CO emissions through April 2014 for FG432BOILERS. On 6/9/14, I received the requested information (see attached). Based upon this information, the 12-month rolling CO emissions from FG432BOILERS through April 2014 was 0.68 tpy.
11. Condition no. VI.7 of table FG432BOILERS of the ROP states, DC shall keep annual records of the normal operating range for each of the three boilers included in FG432BOILERS. During the inspection, I asked for this information for calendar year 2013. During an unrelated inspection on 6/10/14, Mike suggested that the annual capacity factor which is required to be calculated pursuant to condition no. VI.4 of table FG432BOILERS of the ROP and NSPS Db, is a record of the normal operating range for each of the three boilers. I agreed with Mike's suggestion and did not request any further information. See item #8 above regarding calculation of the annual capacity factor for each boiler.
12. Condition no. VII.4 of table FG432BOILERS of the ROP states, in part, DC shall submit notification to the AQD District Supervisor of the design heat input capacity, the identification of fuels to be combusted and the annual capacity factor for each boiler included in FG432BOILERS. It's my presumption that information pertaining to the design heat input capacity and fuels to be combusted was covered in PTI application no. 112-06. With regard to the annual capacity factor, that information is covered by item no. 8 above.

FGBOILERS

Compliance Status: Compliance

Items noted during the inspection.

1. FGBOILERS covers backup boiler nos. 8 (EU2701-01) and 9 (EU2701-02) and they each have a maximum rated capacity of 72 million BTU per hour (or 60,000 lbs. of steam per hour). The emission unit description in table FGBOILERS of the ROP states that each boiler is capable of firing either natural gas or liquid fuel. However, according to Mike, these boilers no longer burn fuel oil. According to Rob Seibert (DC Power & Utilities Team Leader), tanks and piping associated with oil use at the boilers have been disassembled. Rob further stated, to date in 2014, the boilers have run approximately 10 days.

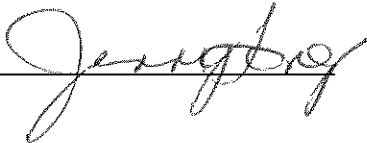
2. Condition no. III.1 of table FGBOILERS of the ROP states, in part, the maximum sulfur content in fuel (% by weight) shall not exceed 1.5%. The sulfur content shall be calculated on the basis of 18,000 BTU per pound for liquid fuels. Because DC is no longer burning fuel oil, I was not able to collect samples to evaluate compliance with this condition. With regard to natural gas, because the facility is burning pipeline quality natural gas, the sulfur content is well below the limit. Condition no. IX.1 of table FGBOILERS of the ROP states, when burning natural gas, DC shall burn only pipeline quality natural gas.

AQD Rule 401(1) is cited as an underlying applicable requirement for this condition. It's my understanding that AQD Rule 401(1) only applies to liquid and solid fuel burning equipment. Since boiler nos. 8 and 9 are burning neither, in my opinion, this condition does not apply. In an email dated 6/11/14, I suggested to DC that they submit a ROP minor modification application pursuant to AQD Rule 216(2) to eliminate this condition along with condition no. V.1 of the same table in the ROP pertaining to testing fuel oil for sulfur content.

3. Condition no. V.1 of table FGBOILERS of the ROP states, in part, for each delivery of fuel oil, DC shall verify the sulfur content. Purchase records for ASTM specification fuel oil, specifications or analysis provided by the vendor at the time of delivery, analytical results from laboratory testing or any other records adequate to demonstrate compliance with the percent sulfur limit in fuel. As stated earlier, boiler nos. 8 and 9 are no longer capable of firing fuel oil. Therefore, I did not request these records during my inspection. See comments in item #2 above pertaining to this condition.
4. Condition no. VI.1 of table FGBOILERS of the ROP states, within 30 days following the end of each calendar month, DC shall calculate and record the average SO₂ emission rate for the previous calendar month to demonstrate compliance with condition no. I.1 of this table. Condition no. I.1 of the same table in the ROP states, the SO₂ emission rate from FGBOILERS shall not exceed 1.67 pounds per million BTU heat input. During the inspection, I requested the calculated average SO₂ emission rate for April 2014.

During an unrelated inspection on 6/10/14, DC informed me that they are not calculating SO₂ emissions from boiler nos. 8 and 9 on a monthly basis as required by condition no VI.1 of table FGBOILERS in the ROP. Instead, they are calculating it on an annual basis. According to DC's 2013 MAERS report, boiler nos. 8 and 9 emitted a total of 2.7 lbs. of SO₂. In my professional opinion, this is not a non-compliance issue, as the SO₂ limit specified in condition no. I.1 of table FGBOILERS no longer applies to FGBOILERS since they no longer have the capability to burn fuel oil (i.e., they only burn natural gas). Therefore to resolve this issue, in an email dated 6/11/14, I suggested to DC that they submit a ROP minor modification application to eliminate condition nos. I.1 and VI.1 from table FGBOILERS in the ROP.

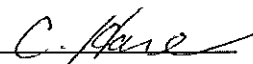
NAME



DATE

6/25/14

SUPERVISOR



Lang, Jennifer (DEQ)

From: steve.moser@dowcorning.com
Sent: Monday, June 09, 2014 5:39 PM
To: Lang, Jennifer (DEQ); mike.gruber@dowcorning.com
Subject: RE: 5/19/14 Inspection - Follow Up Information Request
Attachments: DC006120 Follow up on FG432Boilers.pdf; DC006118-19 Sumamry of Results 2008 Boiler 12 NOx RATA and CO Emissions Tests.pdf; DC006117 Jan 3, 2008 Letter approval of NOx CEMS tests.pdf; DC006114-16 NOx CEMS Daily Calibration Records May 19, 2014.pdf; DC006113 FG432Boilers Conditon VI.3.g. F factor.pdf; DC006110-12 FG432Boilers Conditon VI.3.c. 30-day avg NOx rate.pdf

Jennifer,

Attached is the information we had collected following up on the 5/19/14 inspection. I will bring hard copies tomorrow morning and we can compare notes. There are a some items we want to discuss, including confidentiality concerns regarding certain of the data requested (which has not been provided pending our discussion). We look forward to meeting with you tomorrow.

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

From: Lang, Jennifer (DEQ) [<mailto:LANGJ1@michigan.gov>]
Sent: Monday, June 09, 2014 1:42 PM
To: MOSER, STEPHEN V. (SVMOSER); GRUBER, MICHAEL E. (MEGRUBER)
Subject: 5/19/14 Inspection - Follow Up Information Request

Mike & Steve,

I pulled the attached document together which lists all of the information I was seeking following the inspection on 5/19/14. I figured it would help us make sure the necessary information is collected.

See you tomorrow at 9 am.

Jennifer Lang, P.E.
Environmental Engineer Specialist
MDEQ - Air Quality Division
989-894-6216 (office)
989-891-9237 (fax)
langj1@michigan.gov

RCVD BY MDEQ-ADD ON 6/9/14

Dow Corning Midland Plant

June 9, 2014

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Information Requested During 05/19/2014 Inspection

- A. **FG432Boilers (ROP Mark-up Condition VI.6.)**
CO Emissions (12-month rolling total as of end of April 2014): 0.68 TPY (1,361.5 lbs/yr)
- B. **Alarm Set Points for CEMS (FG432Boilers):**
If the CEMs for any of Boilers 12, 13 or 14 shows an instantaneous reading greater than or equal to 0.041 lbs/MMBTU NOX, an alarm is sent to the Boiler Operator.
- C. **Approval of SSM Plan for FG432Boilers:**
The most recent SSM plan for the 432 Boilers was submitted to the MDEQ on April 15, 2013. Dow Corning has not received any notification from MDEQ regarding the plan. Per Special Condition III.1., "unless notified by the District Supervisor within 30 business days, the original plan and any future modified plans shall be deemed approved."
- D. **Approval of Latest CEMS Operating Plan for FG432Boilers:**
The December 14, 2006 version is the latest version of the NOx monitoring plan. Attached is the January 3, 2008 MDEQ approval of the initial CEMS tests performed pursuant to that plan. See Document DC006117.
- E. **Executive Summary from original (2007) NOx emissions test:**
This document has not been found in the Midland EVS files. Attached are the summaries of results for the 2008 NOx RATA test and 2008 CO emissions test for Boiler 12. See Documents DC006118 and DC006119.

DC 006120

REVID BY UNDEP-ADD
ON 6/9/14

II. PRESENTATION OF RESULTS

**II.1 TABLE 1
NO_x RELATIVE ACCURACY TEST RESULTS
BOILER #12
DOW CORNING CORPORATION
MIDLAND, MICHIGAN
MARCH 18, 2008**

Run #	Time	REFERENCE METHOD			CEM #/MMBTU	DIFF
		NO _x (1)	CO ₂ (2)	#/MMBTU		
1	08:42-09:07	23.8	5.8	0.034	0.034	0.000
2	09:21-09:46	23.1	5.9	0.033	0.034	-0.001
3	10:00-10:25	22.8	5.9	0.033	0.034	-0.001
4	10:41-11:06	22.4	5.9	0.032	0.033	-0.001
5	11:24-11:49	22.3	5.9	0.032	0.033	-0.001
6	12:08-12:33	22.5	5.9	0.032	0.033	-0.001
7	12:48-13:13	22.4	5.9	0.032	0.033	-0.001
8	13:28-13:53	22.2	5.9	0.032	0.033	-0.001
9	14:06-14:31	22.2	5.9	0.032	0.033	-0.001

Mean Reference Value 0.03244

Absolute Value of the Mean of the Difference 0.00089

Standard Deviation 0.00033

Confidence Co-efficient 0.00026

Relative Accuracy = 3.53% of mean of reference method

(1) = Concentration in term of PPM by volume on a dry basis
(2) = Concentration in terms of %

RCVD BY MDEQ-ADD
ON 6/9/14

II. PRESENTATION OF RESULTS

II.1 TABLE 1 CARBON MONOXIDE (CO) EMISSION RESULTS BOILER 12 DOW CORNING CORPORATION MIDLAND, MI							
Operating Condition	Sample	Date	Time	Air Flow Rate (DSCFM)	CO Concentration (PPM ⁽²⁾)	CO Mass Rates	
						Lbs/Hr ⁽³⁾	Tons/Year ⁽⁴⁾
High Load (95%)	1	3/19/08	08:03-09:03	16,315	0.8	0.057	0.25
	2	3/19/08	09:13-10:13		0.8	0.057	0.25
	3	3/19/08	10:23-11:23		0.8	0.057	0.25
	Average					0.8	0.057
Mid Load (55%)	1	3/18/08	08:42-10:25	13,283	0.1	0.006	0.03
	2	3/18/08	10:41-12:33		0.1	0.006	0.03
	3	3/18/08	12:48-14:31		0.1	0.006	0.03
	Average					0.1	0.006
Low Load (25%)	1	3/18/08	14:55-15:55	7,854	0.4	0.014	0.06
	2	3/18/08	16:05-17:05		0.4	0.014	0.06
	3	3/18/08	17:14-18:14		0.4	0.014	0.06
	Average					0.4	0.014
(1) DSCFM = Dry Standard Cubic Feet Per Minute (Standard Temperature & Pressure = 70 °F & 29.92 in. Hg) (2) PPM = Parts Per Million (v/v) On A Dry Basis (3) Lbs/Hr = Pounds Per Hour (4) Tons/Year = Tons Per Year Calculated Using 8,760 Hours Of Operation Per Year (24 Hrs/Day & 365 Days/Year)							

RCVD BY MDEQ-AQD
ON 6/9/14



STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

January 3, 2008

Mr. Randy EngBlade
Dow Corning Corporation
3901 South Saginaw Road
Midland, MI 48686

SRN: A4043

Dear Mr. EngBlade:

SUBJECT: Dow Corning Corporation, Continuous Emission Monitoring Systems (CEMS)
Performance Specification Tests (PST), Permit to Install 112-06

The Air Quality Division (AQD) has completed the review of the initial PST results for the nitrogen oxides (NOx) and oxygen (O₂) CEMS installed on the exhaust of three boilers (EUBOILER12, EUBOILER13, and EUBOILER 14). The relative accuracy test audits were conducted on February 27-28, 2007. The test report was received on September 28, 2007. These CEMS are a requirement of Title 40 of the Code of Federal Regulations (CFR), Part 60, Subpart Db.

It has been determined that the following CEMS satisfy the requirements of 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 3:

EUBOILER12

Thermo Electron Corporation Model 42i-HL NOx Analyzer, S/N 063061976
Brand-Gaus, Model 4705 O₂ Analyzer, S/N 10478

EUBOILER13

Thermo Electron Corporation Model 42i-HL NOx Analyzer, S/N 0630619771
Brand-Gaus, Model 4705 O₂ Analyzer, S/N 10556

EUBOILER14

Thermo Electron Corporation Model 42i-HL NOx Analyzer, S/N 0630619175
Brand-Gaus, Model 4705 O₂ Analyzer, S/N 10555

Please continue to submit your excess emission reports (EERs) to the AQD. Any quality assurance such as cylinder gas audits that are performed during the reporting period may be attached to the quarterly EERs. If you have any questions on this letter, please feel free to contact me.

Sincerely,

Shannon Whiton
Technical Programs Unit
Field Operations Section
Air Quality Division
517-373-1874

cc: Mr. Scott Kilpa, AQD

RCVD BY NDEQ-ACD
ON 6/9/14

Daily Calibration Report
For 5/19/2014

Parameter	Timestamp	Type	Measured Value	Expected Value	Error	Result
NOX, PPM	07:03:03	Zero	0.4	0.0	0.1	Pass
O2, %	07:03:03	Span	20.2	20.0	0.2	Pass
NOX, PPM	07:06:03	Span	286.7	282.0	0.9	Pass
O2, %	07:06:03	Zero	0.0	0.0	0.0	Pass

RCVD BY MDEQ-AQD
ON 6/9/14

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Daily Calibration Report
For 5/19/2014
=====

Parameter	Timestamp	Type	Measured Value	Expected Value	Error	Result
NOX, PPM	07:08:03	Zero	-0.3	0.0	0.1	Pass
O2, %	07:08:03	Span	20.1	20.1	0.0	Pass
NOX, PPM	07:11:03	Span	250.7	273.0	4.5	Pass
O2, %	07:11:03	Zero	0.0	0.0	0.0	Pass

REV'D BY MDEQ-AQD
ON 6/9/14

Daily Calibration Report
For 5/19/2014

Parameter	Timestamp	Type	Measured Value	Expected Value	Error	Result
NOX, PPM	07:13:03	Zero	0.0	0.0	0.0	Pass
O2, %	07:13:03	Span	20.2	20.1	0.1	Pass
NOX, PPM	07:16:03	Span	274.0	276.8	0.6	Pass
O2, %	07:16:03	Zero	0.0	0.0	0.0	Pass

Parameter Name	Units	Last Scan	One Minute Block	One Hour Block
			Avg	Avg
PROCESS		1.00 <SVC>	1.00 <SVC>	1.00 <SVC>
NOX	PPM	24.3 <SVC>	24.0 <SVC>	24.3 <SVC>
O2	%	6.6 <SVC>	6.7 <SVC>	6.6 <SVC>
GAS FLOW	KCFH	58.1 <SVC>	58.0 <SVC>	58.4 <SVC>
GAS HEAT	mmBTU/HR	58.1 <SVC>	58.0 <SVC>	58.4 <SVC>
NOX	LB/mmBTU	0.037 <SVC>	0.037 <SVC>	0.037 <SVC>
NOX	LB/HR	2.1 <SVC>	2.1 <SVC>	2.2 <SVC>

RCVD BY NDEQ-AQD
ON 6/10/14

Parameter Name	Units	Last Scan	One Minute Block Avg	One Hour Block Avg
PROCESS		1.00 <SVC>	1.00 <SVC>	1.00 <SVC>
NOX	PPM	20.9 <SVC>	20.8 <SVC>	20.5 <SVC>
O2	%	6.2 <SVC>	6.4 <SVC>	6.3 <SVC>
GAS FLOW	KCFH	63.7 <SVC>	62.7 <SVC>	62.4 <SVC>
GAS HEAT	mmBTU/HR	63.7 <SVC>	62.7 <SVC>	62.4 <SVC>
NOX	LB/mmBTU	0.031 <SVC>	0.031 <SVC>	0.031 <SVC>
NOX	LB/HR	2.0 <SVC>	1.9 <SVC>	1.9 <SVC>

RCVD BY MDEQ-AOD
ON 6/10/14

Parameter Name	Units	Last Scan	One Minute Block Avg	One Hour Block Avg
PROCESS		1.00 <SVC>	1.00 <SVC>	1.00 <SVC>
NOX	PPM	20.8 <SVC>	20.5 <SVC>	21.4 <SVC>
O2	%	4.8 <SVC>	4.9 <SVC>	4.9 <SVC>
GAS FLOW	KCFH	49.8 <SVC>	49.9 <SVC>	50.2 <SVC>
GAS HEAT	mmBTU/HR	49.8 <SVC>	49.9 <SVC>	50.2 <SVC>
NOX	LB/mmBTU	0.028 <SVC>	0.028 <SVC>	0.029 <SVC>
NOX	LB/HR	1.4 <SVC>	1.4 <SVC>	1.5 <SVC>

RCVD BY MDEQ-A&D
ON 6/10/14

Monthly Average & Total Report
For 5/2014

Date	NOX LB/mmBTU Daily Block Average		NOX LB/mmBTU 30 Rolling Average
05/01/2014	0.029	SVC	0.031
05/02/2014	0.031	SVC	0.031
05/03/2014	0.032	SVC	0.031
05/04/2014	0.034	SVC	0.032
05/05/2014	0.030	SVC	0.032
05/06/2014	0.031	SVC	0.031
05/07/2014	0.031	SVC	0.031
05/08/2014	0.030	SVC	0.031
05/09/2014	0.029	SVC	0.031
05/10/2014	0.033	SVC	0.031
05/11/2014	0.028	SVC	0.031
05/12/2014	0.028	SVC	0.031
05/13/2014	0.029	SVC	0.031
05/14/2014	0.034	SVC	0.031
05/15/2014	0.029	SVC	0.031
05/16/2014	0.031	SVC	0.031
05/17/2014	0.031	SVC	0.031
05/18/2014	0.031	SVC	0.031
05/19/2014	-10000.000	COS	-10000.000
05/20/2014			
05/21/2014			
05/22/2014			
05/23/2014			
05/24/2014			
05/25/2014			
05/26/2014			
05/27/2014			
05/28/2014			
05/29/2014			
05/30/2014			
05/31/2014			

RCVD BY NDEQ-AOD
ON 6/9/14

Definition of Status Codes

COS = CEMDAS OUT OF SERVICE
SVC = MONITOR IN SERVICE

Monthly Average & Total Report
For 5/2014

Date	NOX LB/mmBTU Daily Block Average		NOX LB/mmBTU 30 Rolling Average
05/01/2014	0.030	SVC	0.031
05/02/2014	0.029	SVC	0.031
05/03/2014	0.030	SVC	0.031
05/04/2014	0.032	SVC	0.031
05/05/2014	0.031	SVC	0.031
05/06/2014	0.033	SVC	0.031
05/07/2014	0.030	SVC	0.031
05/08/2014	0.029	SVC	0.031
05/09/2014	0.027	SVC	0.031
05/10/2014	0.032	SVC	0.031
05/11/2014	0.031	SVC	0.031
05/12/2014	0.025	SVC	0.031
05/13/2014	0.025	SVC	0.031
05/14/2014	0.030	SVC	0.031
05/15/2014	0.029	SVC	0.030
05/16/2014	0.033	SVC	0.030
05/17/2014	0.034	SVC	0.030
05/18/2014	0.033	SVC	0.030
05/19/2014	-10000.000	COS	-10000.000
05/20/2014			
05/21/2014			
05/22/2014			
05/23/2014			
05/24/2014			
05/25/2014			
05/26/2014			
05/27/2014			
05/28/2014			
05/29/2014			
05/30/2014			
05/31/2014			

RCVD BY MDEQ-A&D
ON 6/9/14

Definition of Status Codes

COS = CEMDAS OUT OF SERVICE
SVC = MONITOR IN SERVICE

 Monthly Average & Total Report
 For 5/2014

Date	NOX LB/mmBTU Daily Block Average		NOX LB/mmBTU 30 Rolling Average
05/01/2014	0.023	SVC	0.026
05/02/2014	0.022	SVC	0.026
05/03/2014	0.021	SVC	0.026
05/04/2014	0.022	SVC	0.026
05/05/2014	0.021	SVC	0.025
05/06/2014	0.021	SVC	0.025
05/07/2014	0.021	SVC	0.025
05/08/2014	0.021	SVC	0.024
05/09/2014	0.021	SVC	0.024
05/10/2014	0.023	SVC	0.024
05/11/2014	0.025	SVC	0.024
05/12/2014	0.022	SVC	0.023
05/13/2014	0.022	SVC	0.023
05/14/2014	0.026	SVC	0.023
05/15/2014	0.021	SVC	0.023
05/16/2014	0.037	SVC	0.024
05/17/2014	0.025	SVC	0.024
05/18/2014	0.033	SVC	0.024
05/19/2014	-10000.000	COS	-10000.000
05/20/2014			
05/21/2014			
05/22/2014			
05/23/2014			
05/24/2014			
05/25/2014			
05/26/2014			
05/27/2014			
05/28/2014			
05/29/2014			
05/30/2014			
05/31/2014			

*RCVD BY MDEW-ADD
 ON 6/9/14*

 Definition of Status Codes

COS = CMDAS OUT OF SERVICE
 SVC = MONITOR IN SERVICE

Hourly One Hour Report
For 5/19/2014, Hour 10:00

Parameter Name	Parameter Units	Parameter Value	Parameter Status
Fd FACTOR	scf/MBTU	8710.0	SVC
MAX INPUT B12	mmBTU/HR	103.0	SVC
GAS Hc	BTU/SCF	1000.0	SVC
PROCESS		1.00	SVC
NOX	PPM	24.3	SVC
O2	%	6.6	SVC
GAS FLOW	KCFH	58.4	SVC
GAS HEAT	mmBTU/HR	58.4	SVC
NOX	LB/mmBTU	0.037	SVC
NOX	LB/HR	2.2	SVC

RCVD BY MDEQ A&D
ON 6/9/14

-----Explanation for Status Code-----

SVC = MONITOR IN SERVICE

RCVD BY MDEC-ADD ON
6/23/14

21 of 23

DOW CORNING CORP.
JOHN GREEN Co.

Created: 06/20/14 14:43
BOILER # 12

Daily Emission Report
For 6/19/2014

Hour	GAS HEAT mmBTU/HR		NOX LB/mmBTU		NOX LB/HR		NOX LB/mmBTU	
	1-Hr	Blk Avg Stat	1-Hr	Blk Avg Stat	1-Hr	Blk Avg Stat	24-Hr	Roll Avg Stat
0	50.5	SVC	0.028	SVC	1.4	SVC	0.027	SVC
1	50.3	SVC	0.029	SVC	1.5	SVC	0.027	SVC
2	53.2	SVC	0.030	SVC	1.6	SVC	0.028	SVC
3	53.1	SVC	0.029	SVC	1.5	SVC	0.028	SVC
4	52.1	SVC	0.029	SVC	1.5	SVC	0.028	SVC
5	50.2	SVC	0.029	SVC	1.5	SVC	0.028	SVC
6	49.8	SVC	0.029	SVC	1.4	SVC	0.028	SVC
7	52.2	SVC	0.030	SVC	1.6	SVC	0.028	SVC
8	52.3	SVC	0.031	SVC	1.6	SVC	0.028	SVC
9	50.2	SVC	0.030	SVC	1.5	SVC	0.028	SVC
10	49.2	SVC	0.030	SVC	1.5	SVC	0.028	SVC
11	48.2	SVC	0.030	SVC	1.4	SVC	0.029	SVC
12	50.4	SVC	0.031	SVC	1.6	SVC	0.029	SVC
13	50.6	SVC	0.031	SVC	1.6	SVC	0.029	SVC
14	49.2	SVC	0.031	SVC	1.5	SVC	0.029	SVC
15	50.0	SVC	0.031	SVC	1.6	SVC	0.029	SVC
16	50.4	SVC	0.032	SVC	1.6	SVC	0.029	SVC
17	53.8	SVC	0.035	SVC	1.9	SVC	0.03	SVC
18	52.4	SVC	0.034	SVC	1.8	SVC	0.03	SVC
19	53.5	SVC	0.036	SVC	1.9	SVC	0.03	SVC
20	53.0	SVC	0.036	SVC	1.9	SVC	0.031	SVC
21	53.3	SVC	0.035	SVC	1.9	SVC	0.031	SVC
22	54.9	SVC	0.035	SVC	1.9	SVC	0.031	SVC
23	55.2	SVC	0.034	SVC	1.9	SVC	0.032	SVC

-----Explanation for Status Code-----

SVC = MONITOR IN SERVICE

REVD BY MDEQ-AQD ON
6/23/14

22 of 23

DOW CORNING CORP.
JOHN GREEN Co.

Created: 06/20/14 14:48
BOILER # 13

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Daily Emission Report
For 6/19/2014
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Hour	GAS HEAT mmBTU/HR			NOX LB/mmBTU			NOX LB/HR			NOX LB/mmBTU		
	1-Hr	Blk	Avg Stat	1-Hr	Blk	Avg Stat	1-Hr	Blk	Avg Stat	24-Hr	Roll	Avg Stat
0	51.1		SVC	0.025		SVC	1.3		SVC	0.022		SVC
1	50.7		SVC	0.025		SVC	1.3		SVC	0.022		SVC
2	54.4		SVC	0.026		SVC	1.4		SVC	0.022		SVC
3	54.1		SVC	0.025		SVC	1.4		SVC	0.023		SVC
4	52.7		SVC	0.024		SVC	1.3		SVC	0.023		SVC
5	49.9		SVC	0.026		SVC	1.3		SVC	0.023		SVC
6	49.2		SVC	0.025		SVC	1.2		SVC	0.023		SVC
7	53.4		SVC	0.026		SVC	1.4		SVC	0.023		SVC
8	54.7		SVC	0.025		SVC	1.4		SVC	0.023		SVC
9	52.3		SVC	0.025		SVC	1.3		SVC	0.024		SVC
10	51.6		SVC	0.025		SVC	1.3		SVC	0.024		SVC
11	51.1		SVC	0.025		SVC	1.3		SVC	0.024		SVC
12	54.5		SVC	0.025		SVC	1.4		SVC	0.024		SVC
13	54.8		SVC	0.026		SVC	1.4		SVC	0.024		SVC
14	53.2		SVC	0.026		SVC	1.4		SVC	0.025		SVC
15	54.0		SVC	0.027		SVC	1.5		SVC	0.025		SVC
16	54.2		SVC	0.028		SVC	1.5		SVC	0.025		SVC
17	58.3		SVC	0.029		SVC	1.7		SVC	0.025		SVC
18	55.4		SVC	0.029		SVC	1.6		SVC	0.026		SVC
19	56.4		SVC	0.030		SVC	1.7		SVC	0.026		SVC
20	54.7		SVC	0.030		SVC	1.6		SVC	0.026		SVC
21	54.0		SVC	0.029		SVC	1.6		SVC	0.026		SVC
22	55.7		SVC	0.029		SVC	1.6		SVC	0.026		SVC
23	55.9		SVC	0.028		SVC	1.6		SVC	0.027		SVC

-----Explanation for Status Code-----
SVC = MONITOR IN SERVICE

RVD BY MDEQ-AGD
ON 6/23/14

23 of 23

DOW CORNING CORP.
JOHN GREEN Co.

Created: 06/20/14 16:59
BOILER # 14

Daily Emission Report
For 6/19/2014

Hour	GAS HEAT mmBTU/HR		NOX LB/mmBTU		NOX LB/HR		NOX LB/mmBTU	
	1-Hr	Blk Avg Stat	1-Hr	Blk Avg Stat	1-Hr	Blk Avg Stat	24-Hr	Roll Avg Stat
0	44.0	SVC	0.029	SVC	1.3	SVC	0.028	SVC
1	43.8	SVC	0.029	SVC	1.3	SVC	0.028	SVC
2	46.2	SVC	0.028	SVC	1.3	SVC	0.028	SVC
3	46.0	SVC	0.028	SVC	1.3	SVC	0.028	SVC
4	45.3	SVC	0.029	SVC	1.3	SVC	0.028	SVC
5	43.7	SVC	0.030	SVC	1.3	SVC	0.028	SVC
6	43.3	SVC	0.030	SVC	1.3	SVC	0.028	SVC
7	45.5	SVC	0.030	SVC	1.4	SVC	0.028	SVC
8	45.7	SVC	0.030	SVC	1.4	SVC	0.028	SVC
9	44.2	SVC	0.031	SVC	1.4	SVC	0.028	SVC
10	43.7	SVC	0.031	SVC	1.4	SVC	0.028	SVC
11	43.1	SVC	0.031	SVC	1.3	SVC	0.029	SVC
12	45.2	SVC	0.031	SVC	1.4	SVC	0.029	SVC
13	45.3	SVC	0.031	SVC	1.4	SVC	0.029	SVC
14	44.2	SVC	0.032	SVC	1.4	SVC	0.029	SVC
15	44.8	SVC	0.032	SVC	1.4	SVC	0.029	SVC
16	45.0	SVC	0.033	SVC	1.5	SVC	0.03	SVC
17	47.6	SVC	0.032	SVC	1.5	SVC	0.03	SVC
18	46.2	SVC	0.034	SVC	1.6	SVC	0.03	SVC
19	46.9	SVC	0.033	SVC	1.5	SVC	0.03	SVC
20	46.1	SVC	0.034	SVC	1.6	SVC	0.031	SVC
21	46.2	SVC	0.034	SVC	1.6	SVC	0.031	SVC
22	47.6	SVC	0.033	SVC	1.6	SVC	0.031	SVC
23	47.8	SVC	0.032	SVC	1.5	SVC	0.031	SVC

-----Explanation for Status Code-----

SVC = MONITOR IN SERVICE