Department of Environmental Quality

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Compliance Activity

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Facility:The Dow Chemical Company U.S.A., Midland Address:1790 Building, MIDLAND

Contact:Kathy Brewer - SRN/ID:A4033 District:Saginaw Bay

Activity Details

Activity Type: Scheduled Inspection * Activity Date: 09/02/2015 * Staff: Brewer, Kathy *

Activity Contact: Peacock, Kayla Position: Environmental Specialist

Compliance Status: Compliance Activity ID: A403331027

Subject of Activity: EU32 Hazardous waste incinerator inspection

Complaints

There are no resolved complaints available for this activity.

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Summary

Activity Date	Activity Type	Staff	Reports
[illegible]0/2016	Stack Test Observation	Kathy Brewer	CA_A403334047
03/30/2016	Self Initiated Inspection	Kathy Brewer	CA_A403334048
03/21/2016	Other	Richard Osentoski	CA_A403333947
03/15/2016	Other	Richard Osentoski	CA_A403334008
03/15/2016	Other	Richard Osentoski	CA_A403334009
12/09/2015	Stack Test Observation	Kathy Brewer	CA_A403332544
10/22/2015	Scheduled Inspection	Kathy Brewer	CA_A403332005
10/06/2015	Other	Richard Osentoski	CA_A403331714
09/15/2015	Other	Richard Osentoski	CA_A403333009
09/15/2015	Other	Richard Osentoski	CA_A403333011
09/15/2015	Other	Richard Osentoski	CA_A403333016

K. Brewer 6/24/2016

C. Hare 6-27-2016

Inspection date: 9/3/2015
Inspection started: 8:30 AM
Inspection ended: 4:30 PM

Compliance Status: Compliant

Dow and MDEQ-AQD staff present during the inspection.

Kathy Brewer (MDEQ-AQD, EQA)
Kayla Peacock (Dow Chemical, Air Delivery Specialist)
Jim Nemeth (Dow Chemical, Environmental Technician, RCRA Tech., 32 Incinerator)
Rik Lehman (Dow Chemical, Production Leader Environmental Services)

The inspection included a review of on-site records, viewing the EU32INCINERATOR complex, and AQD file information.

Attachments:
Midland Kiln Process Diagram (general)
May 26, 2015
HWC MACT Reportable (AWFCO parameters)
- 10 AM and 2PM instantaneous
- 12 hour graph w/CO, Kiln Temp, pumpable kiln feed
- 12 hour graph w/CO, Kiln Temp, EVS, 2nd ID fan

Air Permit screen 11:00 AM

Sept. 20, 2014
HWC MACT Reportable (AWFCO parameters)
- 7 AM instantaneous

Air Permit screen
- 7 AM instantaneous
- 12 hour graph w/CO, Kiln Temp, pumpable kiln feed

Air Permit screen 12 noon
IWS Train 7 AM #1 fluid level, flow, pump status, plate current for Stages 1 - 3.
IWS Train # 1 -3 7 AM power, flow & pumps

May 15, 2014
HWC MACT Reportable (AWFCO parameters)
- 9 AM and 3PM instantaneous
- 12 hour graph w/CO, Kiln Temp, pumpable kiln feed

Air Permit screen 12 noon

May 31 – June 2, 2015 graph of startup w/kiln temp & waste feed
June 10 – 1, 2015 graph of fuel oil usage during de-slag event
Dec. 17, 2014 CEMS #1 & #2 Calibration for NOx & SO2
Feb. 2, 2014 AWFCO & Malfunction log
Dow SSM Bldg 32 Incinerator Fig. 4-1 (Start up, Shutdown & Normal operation periods)
Feed Stream Analysis Plan Table 3-2 (Organic compounds in waste stream above 36% Concentration)
Feed Stream Analysis Plan Fig. 5-1 (Logic Diagram for Treatment & Disposal of Hazardous Waste at Incinerator)

Confidential information reviewed during the on site inspection:
Waste Profile #127546-000

AQD File Documents Reviewed
Dow 32 Incinerator Operation & Maintenance Plan (7/8/2015, Revision 7)
Dow Emergency Safety Vent Operating Plan 32 Rotary Kiln Incinerator (7/9/2015 Revision 5)
Dow SSM plan for Building 32 Rotary Kiln Incinerator System (7/8/2015, Revision 12)
Dow 32 Building Incinerator Complex Fugitive Dust Control Program (Originally approved 2003)
Dow Feed stream Analysis Plan (7/8/2015 Revision 13)
Dow MIOPS Environmental Operations HWC MACT Training Policy
32 incinerator CPT report and NOC (November 2015)

July 14, 2014 RATA
2015 CEMS and CERMS Quarterly Summary and Excess Emissions Report
Jan – June 2015 40 CFR 63 Subpart EEE and Subpart DD Semi Annual reports
2014 Annual and Semi annual reports
2014 emissions for MAERS

The onsite records and equipment inspection and the AQD file information review found no violations of the ROP EU32INCINERATOR-S1 conditions.

Process Description:
EU32INCINERATOR-S1 is a hazardous waste incineration complex constructed in 2003. The process is designed to thermally treat liquid and solid wastes. The incineration system consists of a rotary kiln, secondary combustion chamber (SCC), quench chamber, air pollution control train (APC), induced draft fans and a stack. The APC train consists of a NOx abatement reactor, rapid quench chamber, packed tower condenser, high energy venture scrubber, chlorine scrubber, and multi-stage ionizing wet scrubber (IWS). An emergency safety vent (ESV) is located at the top of the duct exiting the SCC prior to the APC. The thermal output of the combustion system for the kiln and SCC is 130 MM Btu/hr

Wastes are fed to the incinerator as bulk liquids directly from transport containers and waste storage tanks, as bulk solids, wastewater treatment plant solids, and as containerized solids. Both liquid and solids wastes are fed to the rotary kiln, liquid waste and gaseous vent wastes are fed to the SCC. As necessary, fuel gas is used as a supplemental fuel. Ash residue from the rotary kiln is sent to a hazardous waste landfill.

Process parameters, stack gas concentrations, and stack gas emission rates are measured by a continuous monitoring system (CMS) which includes the continuous monitoring parameter system (CPMS), continuous emission monitoring system(CEMS), and continuous emission rate monitoring system (CERMS). Alarms and automated waste feed shutoff and equipment shutoffs are linked to monitored process and compliance operating ranges.

The 32 Incinerator is subject to the requirements of the NESHAP for Hazardous Air Pollutants for Hazardous Waste Combustors (HWC MACT) 40 CFR Part 63 Subpart EEE, Off-site Waste and Recovery Operations (OSWRO) 40 CFR Part 63 Subpart DD, the general provisions in 40 CFR Part 63 Subpart A, and equipment leak provisions of 40 CFR Part 63 Subpart H (HON).

The incinerator does not operate in an alternative mode when hazardous waste is not present in the incinerator.

Items noted during the inspection.

EMISSION LIMITS

The emission limit table is based on Hazardous Waste MACT or PTI limits. Dow has a data management system that provides the controls required by the HWC MACT and have been demonstrated to meet PTI requirements. This data management system continuously communicates with the existing control system obtaining one minute averages and calculating one-hour rolling averages and 12-hour rolling averages. The system accesses feed rate data for each feed mechanism and component concentrations of ash, semi-volatile metals (SVM), low volatile metals (LVM), mercury, and chlorine for each waste stream. Information for each waste stream characterization is maintained in the data system. The feed rate and component information is used on a real-time basis and communicated back to the control system so that the component feed rates are maintained below the established feed rate for each component.

The CPT report and NOC dated November 2014 and received by the MDEQ on December 11, 2014, contained a comparison of existing limits and conditions to CPT results. All emissions tested were within the allowed limits.

The following subset of emission limits was compared to on-site records and CPT results. Emission values listed under "Compliance demonstration" are results from CPT of August 2014 and onsite records from May 26, 2015, Sept. 20, 2014 & May 15, 2014 respectively.

Pollutant (From SC I. Emission Limit Table)	Limit	Time Period/ Operating Scenario	Compliance demonstration	Underlying Applicable Requirements
1. NO_X	140 pph[2]	24 hours	Site Record 32.82,42.59, 28.33	**R 336.1910**
2. NO_X	185.9 tpy[2]	12 months (Note 1)	Site Record 170.22, 158.56, 155.26	**R 336.1205(1)** **40 CFR 52.21(b)(3)** **40 CFR 52.21(c), (d)**
3. PM-10	30 mg/dscm[2]	One hour	CPT = <4.51 Particulate Matter	**R 336.1225** **R 336.1331(1)(c)** **40 CFR 63.1219(a)(7)**
5. SO_2	26.6 pph[2]	3 hours	Site Record 0.25, 0.25, 0.26	**40 CFR 52.21(c)&(d)**
6. SO_2	39 tpy[2]	12 months	Site Record 1.06, 1.58, 1.58	**R 336.1205(1)** **40 CFR 52.21(c)&(d)**
7. Carbon Monoxide (CO)	100 ppmv[2] (Note 2)	One hour	CPT = 2 Site Record 2.66, 2.47, 3.74	**R 336.1224** **R 336.1225** **R 336.1702(a)** **40 CFR 63.1203(b)(5)** **40 CFR 63.1219(a)(5)** **40 CFR 63.6(f)(1)**
8. Total Hydrocarbons (THC)	10 ppmv[2]	One hour	CPT = <0.5	**R 336.1224** **R 336.1225** **R 336.1702(a)** **40 CFR 63.1203(b)(5)**
10. HCl/Cl_2	32 ppmv[2]	12 hours	CPT = <0.15	**R 336.1225** **40 CFR 63.1219(a)(6)**
11. Mercury	45 µg/dscm[1] (Note 3)	12 hours	CPT = <0.27	**R 336.1228** **40 CFR 61.50**

13. Semi-volatile Metals (SVM)	120 µg/dscm[1] (Note 3)	12 hours	CPT = <1.19	**R 336.1225**
15. LVM	92 µg/dscm[2]	12 hours	CPT = <9.23	**R 336.1225** **40 CFR 63.1219(a)(4)**
23. Dioxin/Furans (D/F)	0.20 ng TEQ/dscm[1] (Note 3)	One hour	CPT = 0.064	**R 336.1225**

During the August 2014 CPT, a Destruction and Removal Efficiency (DRE) for Monochlorobenzene of >99.999993% and >99.9998% for Naphthlene was demonstrated.

MATERIAL LIMITS

The following feed rate limits were compared to on-site records from May 15, 2014, Sept. 20, 2014 & May 26, 2015.

SC II.4 Feed Rate Limits Table

Material Feed (See Note #1)	**Maximum Feed Rate (See Note #2)**	**May 15, 2014 3 PM**	**Sept. 20, 2014 7 AM**	**May 26, 2015 11AM**
a. Maximum heat output of total feedrate	130 MMBTU/hr[2]	98.50 (12:00 PM)	96.33	109.33
b. Miscellaneous solid waste feedrate to kiln (examples include soil and debris, packaged waste, latex solids, activated carbon, Waste Water Treatment Plant sludge)	21,500 pph[2]	2884.86	5963.12	4629.89
c. Maximum total waste feedrate to the incinerator	30,000 pph[2]	16793.05	9579.64	21301.46
d. Maximum total pumpable waste feedrate to kiln	11,409 pph[2]	9991.35	3600.64	8526.09

Material Feed (See Note #1)	Maximum Feed Rate (See Note #2)	May 15, 2014 3 PM	Sept. 20, 2014 7 AM	May 26, 2015 11AM
e. Maximum total waste feedrate to SCC (See Note #3)	6941 pph[2]	3744.74	0	3537.95
f. Maximum total feedrate of each organic compound	11,000 pph[1]	Not evaluated	Not evaluated	Not evaluted
g. Mercury	0.70 pph[2]	0	0	0
h. LVM	28.6 pph[2]	7.56	4.98	5.34
i. SVM	48.1 pph[2]	1.75	1.14	1.28
j. 2-Propeneamide (acrylamide) (CAS 79-06-1)	5,900 pph[1]	0	0	7.32
k. 2-Propeneamide polymers	5,900 pph[1]	0	0	7.32
l. Aluminum nitride (CAS 24304-00-5)	2,260 pph[1]	0	0	29.6
m. Antimony (CAS 7440-36-0)	1,090 pph[1]	7.39	2.26	6.66
n. Cadmium (CAS 7440-43-9)	48.1 pph[1]	0.06	0.09	0.03
o. Chromium VI (CAS 440-47-3)	2.28 pph[1]	0	0	0
p. Cobalt (CAS 7440-48-4)	470 pph[1]	0	0	1.10
q. Hydrazine (CAS 302-01-2)	1,400 pph[1]	0	0	7.32
r. Manganese (CAS 7439-96-5)	260 pph[1]	12.76	4.39	8.55

Material Feed (See Note #1)	Maximum Feed Rate (See Note #2)	May 15, 2014 3 PM	Sept. 20, 2014 7 AM	May 26, 2015 11AM
s. Bis (chloromethyl) ether (CAS 542-88-1)	100 pph[1]	0	0	0
t. Nickel (CAS 7440-02-0)	316 pph[1]	0.10	0.18	0.06
u. Quinoline (CAS 91-22-5)	2,200 pph[1]	184.6	0	37.23
v. Tetrachlorosilane (CAS 10026-04-7)	11,000 pph[1]	0	0	18.32
w. Platinum (CAS 7440-06-4)	47 pph[1]	0	0	1.12
x. Total fluorides	660 pph[2]	13.96	4.99	90.72
y. Silver – soluble (CAS 7440-22-4)	230 pph[1]	0.06	0.06	0.06
z. Sulfuric acid (CAS 7664-93-9)	4,080 pph[1]	0	0	34.16
aa. Pumpable LVM	8.23 pph[2]	0	0	0

Note #1: Each feed limit applies to all feed streams combined, unless otherwise stated for a specific limit.

Note #2: No limitation shall be imposed for the incineration of high alloy, high melting point pieces of metal pipe, valves, pipe fittings, plate, process equipment, or similar materials. This does not exempt metal foils, powders, or granular material.

Note #3: Only pumpable waste and vent streams shall be fed to the Secondary Combustion Chamber (SCC).

A CPT was conducted in August 2014. The CPT report was received on December 11, 2014. Analysis of samples for waste feed ash content, total chlorine, BTUs, and metals in solid and gas streams met QA objectives and were within audit limits.

PROCESS/OPERATIONAL RESTRICTIONS

Rotary Kiln, SCC, & EVS

Destruction of organic compounds takes place in the combustion chambers. The rotary kiln typically operates above 800 C and the SCC typically operates above 980 C. The waste streams supply most of the heat. Natural gas is used to maintain the temperature when the Btu content of the waste is limited and to maintain the flame during startups and shutdowns.

The combustion system is equipped with a counterweighted damper emergency safety vent (ESV). The purpose of the ESV is to protect personnel and downstream equipment in the event of power failure, ID fan failure, high quench chamber temperature, low water flow to the quench chamber, or extremely high temperature. If the damper opens, all waste feeds to the incinerator are stopped immediately and cannot be restarted until the damper is closed.

Per the Annual and Semi Annual deviation reports for 2014, on three occasions slag fell into the quench chamber pool generating steam and causing the kiln pressure to exceeded operating ranges. During one of the events the EVS opened to relieve pressure for 10 seconds. An AWFCO was initiated and the SSMP was followed in both instances. On 2 occasions low kiln temperatures were recorded. One due to thermocouple failure resulting in all fuels cut-off, and AWFCO with SSMP implemented, one during monthly test of waste transfer cutoff switch when the emergency all fuels shutdown was mistakenly activated.

NOx reactor

After the combustion gases exit the SCC, they enter the NOx reactor. A urea solution is air atomized into this chamber to control NOx generation.

Quench

Post NOx reactor the combustion gases enter the quench section. Process vapors are contacted with water that is injected into the quench to cool the gases.

Air Pollution Control System (APC)

Packed tower condenser

The packed tower is a counter current vessel where gas is contacted with recycled water over a packed bed. The tower serves to scrub gases and further lower the temperature of the combustion gas.

High energy venture scrubber

The high energy venture scrubber removes the major portion of the very fine particulate material from the gas stream. The pH of the venture scrubber water is controlled by the addition of caustic to the chlorine scrubber which supplies the water for the venture scrubber.

Per the Annual and Semi Annual deviation reports for 2014, the pH in the Venturi scrubber was <7.5 for 4 minutes and for 28 minutes due to a caustic flow set point reset and a flow restriction. AWFCO was initiated and the SSMP was followed, set point reset, and flow restriction removed.

Chlorine scrubber

The chlorine scrubber removes the remainder of the hydrogen chloride and chlorine from the gas stream by contact with the pH controlled scrubber liquor across a packed bed where entrained water droplets are removed from the gas stream.

IWS

The ionizing wet scrubbers remove the low levels of fine particulate matter from the gas stream. The gas passes through charged fields. The charged sub-micron particles are attracted to the charged plates and rod then removed by a continuous flow of water through the beds.

Per the Annual and Semi Annual deviation reports for 2014, for 1 minute two IWS units shut down due to low voltage while a third IWS was in routine wash step. The low voltage was caused by high water level in the 3rd stage after a water level indicator froze. An AWFCO was initiated and the SSMP followed. A visual water level check was added to plant round expectations.

During the August 2015 CPT the demonstrated control efficiencies for Particulate Matter, Mercury, HCL/CL2, SVM and total LVM were all greater than 99.99%.

AWFCO

The Automatic Waste Feed Cutoff limits are acceptable operating conditions that are met to prevent automatic shut off of hazardous waste feeds to the incinerator. Compliance with several emission limits is demonstrated through maintaining the incinerator operating and control equipment contained in the AWFCO table.

Dow derived feed rates and operating conditions from those established during a CPT conducted in September of 2009, MACT EEE & DD, or, back calculated from PTI limits. The CPT established the control efficiencies of the packed tower condenser, venture scrubber, chlorine scrubber, & IWS. The operating conditions are based on values determined by the CPT, good engineering practice, and manufacturer's specifications. The AWFCO conditions are used to establish the values to assure compliance, safety interlocking, process response and control, operational

flexibility and safe shutdown scenarios. Safety and AWFCO shutdown responses are relayed to various equipment items when process limits are not met so that the equipment will go into a failsafe mode. A number of monitors support the AWFCO system.

The following operating condition limits were compared to on-site records from May 26, 2015.

SC III.4 AWFCO Table

Operating Parameter	**Waste Feed Cutoff Limit**	**May 26, 2015 Unless noted**
a. Induced fan on	Off	On
b. ESV closed (See Note #2)	Open	Closed
c. Span value of any CMS	Met or exceeded	None exceeded during RATA
d. Maximum Kiln Pressure (prior to installation and operation of the secondary seal system or plenums)	Atmospheric	No longer applicable

Operating Parameter	Waste Feed Cutoff Limit	May 26, 2015 Unless noted
e. Maximum Kiln Pressure (upon installation & operation of the plenums)	If the pressure in the kiln is greater than ambient, and any of the following three scenarios occur: (A) The pressure difference between the kiln pressure and the inlet and/or outlet plenums is less than 0.2 inches of water. (B) The pressurizing equipment for either plenum fails. (C) The pressure in the kiln is greater than the pressure in the inlet and/or outlet plenums at any time.	-1.63
f. Minimum O_2 content	3.0 %	11.67
g. Maximum CO concentration	100 ppmv at 7% O_2	2.66
h. Maximum total waste feed to the incinerator	30,000 lb/hr	21301.45
i. Maximum total pumpable waste feed to kiln	11,409 lb/hr	8526.09
j. Maximum total waste feed to SCC	6941 lb/hr	3537.95
k. Maximum Stack Gas Flow rate	51,871 scfm	45083.63
l. Minimum Kiln Temperature	783°C	820.61
m. Minimum SCC Temperature	959°C	1038.26

Operating Parameter	Waste Feed Cutoff Limit	May 26, 2015 Unless noted
n. Minimum chlorine scrubber differential pressure	0.35 in. w.c.	3.68
o. Maximum Inlet temperature to condenser	120°C	80.05
p. Minimum Water flow to venturi	750 gpm	899.94
q. Minimum Differential pressure venturi	50 in. w.c.	59.11
r. Minimum pH Venturi	7.5	8.51
s. Minimum total water flow to HCl scrubber	1000 gpm	1270.65
t. Minimum Blowdown from Quench	425 gpm	442.69
u. Minimum Blowdown from chlorine scrubber/ venturi	65 gpm	199.94
v. Minimum total water Flow to Quench	638 gpm	754.82
w. Minimum water flow to Condenser	2,707 gpm	3199.37
x. Minimum Condenser differential pressure	0.25 in. w.c.	3.28
y. Minimum inlet water pressure to Condenser	5 psig	23.11
z. Minimum water flow from Condenser to Quench	300 gpm	442.99
aa. Minimum power (kV) to IWS	8 in 7 or more units	Yes (9/20/2014)
bb Maximum ash feed rate in all feedstreams	10,636 lb/hr	4958.02
cc. Maximum chlorine and chloride feed rate in all feedstreams	5,500 lb/hr	529.38
dd. Maximum mercury in all feedstreams	0.70 lb/hr	0
ee. Maximum SVM feed rate in all feedstreams	48.1 lb/hr	1.43
ff. Maximum LVM feed rate in all feedstreams	28.6 lb/hr	6.26
gg. Maximum pumpable LVM feed rate	8.23 lb/hr	0

Operating Parameter	Waste Feed Cutoff Limit	May 26, 2015 Unless noted
hh. Minimum water flow in each recycled water system (i.e., 1st, 2nd and 3rd stage) of the IWS.	900 gpm (3406.87 liters)	1st stage =1278.53 gpm 2nd stage =1398.64 gpm 3rd stage = 1536.90 gpm (9/20/2014)
ii. Minimum water flow to the plates of each IWS unit. (There are 9 IWS units in the IWS system.)	15 gpm in each of 7 or more units	26.71 (9/20/2014)
jj. Minimum blowdown from IWS to packed tower condenser	161 gpm	249.38 (9/20/2014)
kk. Flame detectors system (See note #3)	Off	Start up condition not evaluated

Note #1: Where redundant devices are used, malfunction is defined as failure of all redundant monitoring devices.

Note #2: The permittee shall monitor and record the emergency bypass operating time (minutes per day) of the APC system and associated cause on a continuous basis, unless otherwise noted, in a manner and with instrumentation approved in writing by the AQD.

Note #3: The flame detectors system is only used during startup until the combustion chamber has reached the auto-ignition temperature.

Note #4: Automatic cutoff of the vent streams from 1005 Building (EUC3-S1) and the tank farm (EUB7-S1) is not required unless one of the following three operating parameters is not met: Maximum Stack Gas Flow Rate (4.j), Minimum Kiln Temperature (4.k), or Minimum SCC Temperature (4.l).

A CPT report and NOC received December 11, 2014 contained a comparison of existing limits and conditions to CPT results including AWFCO operating limits during the CPT. The company has submitted a PTI modification application to incorporate the operating conditions and emission limits demonstrated during the CPT.

TESTING AND MONITORING

CMS/CEMS/CERMS/CPMS

Continuous emission monitors measure stack gas concentrations and continuous process parameter monitors measure operating parameters from the combustor and air pollution control system. The data is recorded as part of

the facility operating record. Data collected from the monitors and analyzers is transmitted to a data acquisition and management system that performs data manipulations and calculations and compares the computed values to AWFCO limits. The Instrument response is evaluated every 15 seconds and average values are computed and recorded at least once every 60 seconds.

Dow developed and implemented a continuous monitoring system performance evaluation plan (CMS PEP) to provide QA/QC measures for the continuous monitoring system used to monitor compliance of the stack gas. A copy of the plan details are located in the AQD files.

The CEMS includes a CO analyzer and an oxygen analyzer to allow the CO stack gas concentration to be continuously corrected to 7 percent oxygen pursuant to 40 CFR 63.1209(a) of the HWC MACT. The CEMS also includes a continuous emission rate monitoring system (CERMS) that determines the mass rate emissions for non-MACT parameters of NOx, SO2 and gas flow rate. Dow has redundant CO, O2, NOx, and SO2 analyzers and stack gas flow meters.

Per 2015 Excess Emission reports there were no CEMS periods without monitoring for any of the analyzers. Any exceedances were below 1 percent of operating time.

Per Annual and Semi Annual deviation reports for 2014, the CEMS was unavailable for 9 minutes when a CEMS Unit 2 cooler failed while CEMS Unit 1 had a circuit board failure. The CO CEMS was out of service for 85 minutes due to CEMS 1 circuit board failure and Unit 2 CPU board malfunction when there was no waste in the kiln.
There were 5 occasions when CO emissions were exceeded during periods of incomplete combustion while in startup and shutdown with no waste in the kiln. On one occasion during start up of a waste feed from a rail car the hourly rolling average CO was greater than 100 ppmv for 61 minutes. The SSMP was followed in response to the waste stream flow.

The CMS PEP includes an annual RATA. On July 29, 2015, a RATA was performed on the EU32INCINERATOR CEMS. The most recent report in the AQD files is for the July 14, 2014 test on the CEMS and CERMs. During the CEMS test the plant operated at greater than 50% of normal operating rates. All of the CEMS and CERMS met the performance specification test criteria.

The continuous parameter monitoring system (CPMS) consists of instruments that are electronically connected to the process control computer (PCC) and used to demonstrate compliance with the regulatory limitations on process operational parameters. The CPMS monitors numerous parameters such as temperature, pressures, waste mass feed rates, liquid flow rates, and pH at locations throughout the combustion and APC train. Alarms and automated responses based on ranges of allowed operating and emission conditions are integrated into the PCC. Operators monitor the process and respond to alarms and information continuously. Board Operating Specialists perform monthly AWFCO tests of the alarm programming.

The CEMS and CPMS QA/QC program defines ongoing performance evaluations of the CEMS including calibration checks, system inspections, maintaining gas certification, preventative maintenance, and data management. Calibrations of components used to monitor HWC MACT operating parameters are conducted based on manufacturers written specifications or recommendations.

OTHER REQUIREMENTS

The following plans were reviewed.
Dow 32 Incinerator Operation & Maintenance Plan (7/8/2015, Revision 7)
Dow Emergency Safety Vent Operating Plan 32 Rotary Kiln Incinerator (7/9/2015 Revision 5)
Dow SSM plan for Building 32 Rotary Kiln Incinerator System (7/8/2015, Revision 12)
Dow 32 Building Incinerator Complex Fugitive Dust Control Program (Originally approved 2003)
Dow Feed stream Analysis Plan (7/8/2015 Revision 13)
Dow MIOPS Environmental Operations HWC MACT Training Policy

An example AWFCO Malfunction Log completed on February 2, 2014 is attached. No Noncompliance with the reviewed plans was found during the inspection.