

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

N071037654

FACILITY: Michigan Department of Health and Human Services		SRN / ID: N0710
LOCATION: 3350 N Martin Luther King Blvd., LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Judith K. Smith, Laboratory Health and Safety Officer		ACTIVITY DATE: 11/18/2016
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled inspection of facility which installed an incinerator that was recently permitted (2014).		
RESOLVED COMPLAINTS:		

On 11/18/2016, the Michigan Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted a scheduled inspection of the Michigan Department of Health and Human Services pathological waste incinerator at the Joint Lab Facility. This facility was last inspected by AQD in 2009, when a previous incinerator, now removed, had been at the site.

Environmental contact:

Judith K. Smith, Laboratory Health & Safety Officer; 517-335-8850; smithj77@michigan.gov

Facility description:

This facility operates a natural gas-fired pathological waste incinerator.

Emission units:

Emission unit ID	Emission unit description	Permit to Install (PTI) No., or rule	Compliance status
EUINCINERATOR	Natural gas-fired pathological waste incinerator; Consutech Systems, LLC Model number C-32P-1, with secondary combustion chamber for control	PTI No. 185-13	Compliance
Two boilers	Two 15 million Btu/hr boilers, Boiler-1 and Boiler-2	Rule 282(b)(i); 40 CFR Part 60, Subpart Dc	Did not observe
Diesel generator	Diesel fuel-fired emergency generator	Rule 285(g); 40 CFR Part 63, Subpart ZZZZ, and potentially 40 CFR Part 60, Subpart IIII	Not operating

Regulatory overview:

This facility is considered to be a true minor source, rather than a major source of air emissions. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns. It is also considered a minor or *area source* for Hazardous Air Pollutants (HAPs), because it is not known to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

The facility is potentially subject to 40 CFR Part 60, Subpart Ec, *Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators*. However, Section 60.50c (b) exempts a combustor from Subpart Ec during periods when only pathological waste (defined in Section 60.51c) is burned, provided the owner or operator keeps records on a calendar quarter basis of the periods of time when only pathological waste is burned. It is my understanding that this facility burns only pathological waste, and keeps records of the periods of time when pathological waste is burned.

The facility is subject to 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for the boilers onsite. A natural gas-fired boiler at an area source of HAPs would not be subject to 40 CFR Part 63, Subpart JJJJJ, under Section 63.11195(e), while a hot water heater at an area source would not be subject, under Section 63.11195(f). To meet the definition of a hot water heater in this area source Generally Achievable Control Technology

(GACT) standard, the unit must be no more than 120 gallons in capacity. AQD has not been delegated authority to enforce Subpart JJJJJ.

For the permit-exempt diesel fuel-fired generator, the facility may be subject to 40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Stationary Reciprocating Internal Combustion Engines*, also known as the RICE MACT (Maximum Achievable Control Technology). The generator may also be subject to 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

Fee category:

This facility is not considered Category I fee-subject, because it is not a major source for criteria pollutants, nor for HAPs. It is also not a category II fee source. It does not appear to be subject to 40 CFR Part 60, Subpart Ec. It is subject to 40 CFR Part 60, Subpart Dc, for the two boilers onsite. However, facilities which would be subject to an annual air emissions fee primarily because of Dc are typically not considered fee-subject. The emergency generator onsite may be subject to 40 CFR Part 60, Subpart IIII or JJJJ, but facilities subject to fees primarily because of a generator have typically not been considered fee-subject. It was decided in 2010 that they met criteria for being exempt from fees, based on input from AQD's Michael McClellan, the assigned inspector at that time.

This facility is not required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS). Under AQD Operational Memorandum No. 13, the reporting threshold below which a source is not required to report is 10 tons per year of VOC. In 2010, it was determined that they met the criteria for being exempt from MAERS reporting.

Location:

The incinerator is located at the Joint Lab Facility, which is on the east side of Martin Luther King, Jr., Boulevard. To the immediate east is a small lake, with a small park on the east side. The nearest residences are almost 900 feet east of the incinerator exhaust stack. To the immediate north is an industrial facility. To the west are military facilities. To the northwest is a government complex. To the south are numerous commercial facilities.

Recent history:

This facility was last inspected on 8/19/2009, when a previous incinerator was at the site, and was found to be in compliance. That incinerator has since been removed. The current incinerator was permitted in 2014, but was not immediately installed. This is the first AQD inspection of the new incinerator.

Arrival:

This was not an unannounced inspection. In order to ensure that I arrived at a time when the incinerator would actually be in use, this inspection had been arranged in advance. I arrived at the Joint Lab Facility at 9:00 AM. I identified myself at the entrance gate. I was then directed to the visitor parking area, and was met by a security guard in the lobby of the lab. I provided my credentials, per AQD procedure. I met with Ms. Judith Smith, Laboratory Health & Safety Officer, who is the MDHHS environmental contact for the incinerator.

I did not provide a copy of the DEQ brochure *Environmental Inspections: Rights and Responsibilities*, because it is being revised at this time, and AQD staff have been asked to not hand it out until revisions are complete. I provided a copy of the Boiler NESHAP information card, per AQD procedure.

Inspection:

Pathological waste incinerator, PTI No. 185-13:

Compliance was checked with the Special Conditions, as follows:

I. EMISSION LIMITS

Special Condition (SC) No. I.1 sets an emission limit for particulate matter (PM) of 0.20 lb/1,000 lbs of exhaust gas, calculated to 50% excess air, with an underlying applicable requirement of Michigan Air Pollution Control Rule 331. In order to check compliance with this PM limit, it would be necessary to conduct a stack test. At present, there does not appear to be a need to conduct a stack test, because the incinerator's ability to comply with this limit is not in doubt.

II. MATERIAL LIMITS

SC No. II. 1 states that the permittee shall not burn any waste in EUINCINERATOR other than the following:

Pathological wastes - As defined in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.51c, pathological waste means waste materials consisting of only human or animal remains, anatomical parts, and/or tissue; the bags/containers used to collect and transport the waste material; and animal bedding.

Medical/Infectious waste - As defined in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.51c, infectious waste includes pathological waste known to have been exposed to infectious agents during research, production of biological or testing of pharmaceuticals. For co-fired combustors this waste shall not exceed 10 percent, by weight, in aggregate, of the total waste burned in EUINCINERATOR as measured on a calendar quarter basis.

I was advised that this unit burns only pathological wastes, and that it does not burn medical/infectious waste. This appears to comply with SC No. II. 1. It appears that the unit is not classified as a co-fired combustor under 40 CFR 60.51c, which contains the definitions for 40 CFR Part 60, Subpart Ec.

Ms. Smith explained that the pathological waste they burn animal remains, sometimes from rabies testing. It is my understanding that the remains may be wrapped in newspaper, and are enclosed within plastic bags.

I inquired if remains from rabies testing could be considered infectious waste. It was explained that per their experience, infectious waste is really patient wraps, microbiological waste, body fluids, cultures, or freezer stock, which they do not burn. Here, laboratory infectious waste is sent to autoclaves, for treatment. For some wastes which cannot be autoclaved, those are disinfected with 10% bleach, I was advised. 40 CFR contains a definition of infectious agent, I was informed (in Section 60.51c).

Even if someone chose to interpret remains from testing an animal with rabies as infectious waste, that would be less than 10 percent, by weight, of all waste burned, I was advised, so SC No. II. 1 appears to be met, either way.

SC No. II.2 states that the permittee shall not burn any fuel in EUINCINERATOR other than natural gas. I was informed that natural gas is the only fuel used.

SC No. II.3 states that the permittee shall not charge more than 85 lbs per charge in EUINCINERATOR. A review of facility recordkeeping showed charge weights on recent dates:

11/1/2016: 84.6 lbs

11/3/2016:84.6 lbs

11/16/2016: 84.15 lbs

11/16/2016: 84.25 lbs

The record keeping itself identifies 85 lbs as the appropriate limit. Looking back further, we found

numerous instances where charge weight was slightly below 85 lbs, or at 85 lbs exactly. However, on 9/21/2016, there a single instance where 85.95 lbs were charged, as a single charge, in the incinerator. This appeared to be an anomaly, from review of the records. Ms. Smith explained there may have been a misunderstanding where it was thought that any value below 86.0 lbs was still considered to be 85 lbs. I explained that 85.0 lbs is the actual maximum.

The underlying applicable requirements for the 85 lb limit in SC No. II. 3 are Rules 301 and 331. Rule 301 limits opacity to a 6-minute average of 20%, except for one 6-minute average per hour not to exceed 27%, and Rule 301 limits particulate emissions from pathological waste incinerators to 0.20 lbs/1,000 lbs of exhaust gases. Neither of these rules would likely be violated by a single instance where a charge was 0.95 lbs over the 85 lb charge limit. Therefore, this very isolated minor exceedance is not considered to be a violation of the permit, nor to have resulted in a violation of Rules 301 or 331, on 9/21.

III. PROCESS/OPERATIONAL RESTRICTIONS

SC No. III. 1 states that the permittee shall not combust waste in the unit unless a minimum temperature of 1600 degrees F a minimum retention time of 1.0 seconds in the secondary combustion chamber are maintained. The unit was designed to have a retention time of greater than or equal to 1.0 second, according to the permit application. As seen later during the inspection, actual secondary combustion chamber temperature was 1849 degrees F, with a set point of 1850 degrees F, well above the required minimum.

A review of circular chart recordings from October 3, 10, 24 and 25, 2016 showed that they were meeting the minimum temperature requirements on those dates as well.

SC No. III. 2 states that EUINCINERATOR shall be installed, maintained, and operated in a satisfactory manner to control emissions from EUINCINERATOR. The condition refers to the list of recommended operating and maintenance procedures in Appendix A.

Ms. Smith advised that the incinerator receives weekly, monthly, and yearly maintenance. I was shown maintenance records to this effect.

The weekly and monthly checks, I was advised, include cleaning out the unit after each run, and monthly door checks on the unit.

I was informed that Michigan Department of Technology, Management, and Budget (DTMB) is responsible for quarterly maintenance on the unit. This includes:

- Lubricating door latches and hinges.
- Lubricating moving parts on air valves.
- Visual checks on hydraulic fluid level, lines, and fittings on door loader hinges.

I was informed that the Vierson Boiler Repair Company was here on 10/13/2016, for annual maintenance on the incinerator.

Appendix A, Incinerator Operation and Maintenance Guidelines, are as follows:

1. *Designate a trained operator for your unit and make that person responsible for compliance with the air pollution control requirements.* I was informed there are two operators, including Ms. Smith.
2. *Grates should be cleaned before each day's operation (more often if necessary), and the ashes disposed of properly.* I was advised the grates are cleaned after each operation, once the unit has cooled down. Therefore, the next operational session starts with clean grates.
3. *Preheat the unit with the burners (not with waste) for at least 15 minutes.* I was informed that the unit is designed with safeguards, so that the charge cannot physically be loaded into the unit, until it has reached the proper operating temperature.
4. *Do not overload the incinerator.* Stay within the given loading rates, and follow the manufacturer's instructions. I was informed that they do not overload the unit.

5. *Schedule charges to minimize opening the charging door as infrequently as possible. Opening the charging door lets cold air in and quenches the fire causing smoke. It is my understanding that the unit was designed so that the charging door cannot be opened when waste is being combusted.*
6. *Burn only the type of wastes that your incinerator has been approved to burn. Follow the manufacturer's instructions to maximize the efficiency of the unit, and to properly burn the waste(s). I was informed that they are only burning the waste specified in their PTI. I was advised that one or more other government agencies have actually asked MDHHS to consider disposing of their wastes for them, but MDHHS has refused, citing their air permit requirements.*
7. *Keep the combustion air adjusted according to the manufacturer's instructions. I was advised that the unit adjusts its own combustion air, automatically, and that maintenance personnel check on this.*
8. *Observe the stack frequently and adjust your operation as necessary to eliminate smoke and fly ash. I was informed that they regularly observe the stack.*
9. *A copy of the manufacturer's manual and this guideline should be posted near your incinerator. I observed that the manual was located by the incinerator, and that the PTI with Appendix A is kept onsite.*
10. *Make semi-annual inspections to check and service all of the equipment. If you do not have a qualified person available for proper inspections, a service contract with a reputable manufacturer is advisable. Please refer to the previous discussion in this activity report on weekly, monthly, and yearly maintenance.*

The facility appears to be in compliance with SC No. III. 2.

IV. DESIGN/EQUIPMENT PARAMETERS

SC No. IV. 1 requires that the permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the temperature in the secondary combustion chamber on a continuous basis. It is my understanding that whenever waste is being combusted, the temperature is being recorded. I was advised that they make sure the ink pens for recording on the circle chart are working properly, and that the Vierson Boiler Repair Company checks the monitoring and recordkeeping equipment, to make sure it functions properly.

SC No. IV. 2 requires that the permittee shall maintain a scale at the facility for the purpose of verifying the charge weight. I was advised that the scale is onsite, in the rabies lab within the Joint Lab Facility. It is kept there rather than right next to the incinerator, because the rabies lab is a cleaner environment. This is satisfactory, for compliance purposes.

V. TESTING/SAMPLING

N/A; there are no Special Conditions under this heading.

VI. MONITORING/RECORDKEEPING

Records under this heading are required to be maintained on file for a period of five years. This incinerator unit has only been active for about 13 months, I was told, but the records were available. I was also advised that they also have available records stretching back 5 years for the previous incinerator which was located here, under PTI No. 512-97. We examined records for the current incinerator, but I declined to review records for the earlier incinerator.

SC No. VI. 1 requires that all required calculations be completed in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous month. There are no calculations required by this PTI.

SC No. VI. 2 requires that the permittee monitor and record the temperature in the secondary combustion chamber on a continuous basis. I was advised that they are recording the temperature on a continuous basis, and was shown circular chart recordings kept on file. Recordings of October 3, 10, 24, and 25, 2016 showed that they were meeting the minimum 1600 degrees F temperature requirement for the secondary combustion chamber.

SC No. VI. 3 requires that the permittee keep daily records of the time (duration of burn) and weight of waste combusted in EUINCINERATOR, and make them available upon request. The circular charts

showed the duration of the burn cycles.

SC No. VI. 4 requires that records be kept on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combined, and the weight of other fuels and wastes combined in EUINCINERATOR. It is my understanding that no hospital or medical/infectious waste is burned, and that the only fuel burned is natural gas.

SC No. VI. 5 requires the permittee keep secondary combustion chamber temperature records, and make them available upon request. The circular charts record secondary chamber combustion temperature, whenever the unit is operating. They appear to be in compliance with this condition.

SC No. VI. 6 requires that a record of all service, maintenance and equipment inspections for EUINCINERATOR. Earlier during the inspection, I observed records of service, maintenance, and equipment inspections, so this condition is being met.

VII. REPORTING

N/A; there are no requirements under this heading.

VIII. STACK/VENT RESTRICTIONS

SC No. VIII. 1 requires a maximum exhaust stack diameter of 18 inches, and a minimum stack height of 31 feet. The incinerator exhaust stack appears to conform to these dimensions.

IX. OTHER REQUIREMENTS

N/A; there are no requirements under this heading.

Following the above review of all the PTI special conditions, we walked to the location onsite of the incinerator, within the boiler building. The incinerator visually appeared to be clean, and in good condition. It had been warming up, and the chart recorder was on.

Temperature data recorded instantaneously as I observed:

Upper chamber:

- Set point 1850 degrees F
- Actual process value: 1849 degrees F

Lower chamber:

- Set point: 1600 degrees F
- Actual process value: 1281 degrees F

I observed that the manufacturer Operation & Maintenance manual was kept in a storage container, right next to the chart recorder. I recommended that a copy of the PTI be kept in the storage container as well, and MDHHS staff agreed to this.

I was introduced to Derek, the primary operator for the incinerator. I observed the loading of pathological waste in red bags into the unit. I was informed that the lower chamber's burner shuts off while the charging door is open. I was also advised that there is an inner door, so that no exposure to either flame or waste materials occurs. It is my understanding that in the event of any "flame ups" or if the chamber overheats, water sprays are activated.

It was explained that they wait 24-48 hours for the unit to cool down, before they do work around the ash, for maintenance. They do not run two or more days in a row, I was told. It is my understanding that they run typically once per week throughout most of the year, but twice per week in the summer, which is their busiest season.

As we talked, I stepped outside to look at the exhaust stack. There were no visible emissions from the incinerator, at 10:24 AM. No odors could be detected. Weather conditions were 65 degrees F, partly sunny, and humid, with winds 5-10 miles per hour out of the south southeast.

Boilers; Rule 282:

The Michigan Department of Technology, Management, and Budget (DTMB) is responsible for the boilers, I was told. The current Zone Manager is Mr. Neal Droste, (517-335-4273; drosten@michigan.gov), I was advised. I left a spare copy of the 2009 AQD inspection report with Ms. Smith, to forward to Mr. Droste. A future AQD inspection will need to focus more on the boilers.

The boilers were identified on the units themselves as Boiler-1 and Boiler-2. Both were manufactured by Cleaver Brooks. At least one was operating, at the time I was in the boiler building. There were no visible emissions from the boiler stacks.

Diesel generator, Rule 285(g); 40 CFR Part 63, Subpart ZZZZ; 40 CFR Part 60, Subpart IIII:

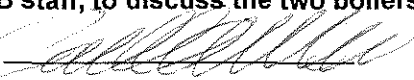
The unit was not running, at this time. It is operated typically only for readiness testing and maintenance purposes. I will forward to Mr. Droste a link to the U.S. EPA self-navigating quiz for Reciprocating Internal Combustion Engines (RICEs), so that DTMB may determine which federal regulatory requirements they are subject to.

I left the site at 10:38 AM.

Conclusion:

There were no instances of noncompliance that could be found. A future inspection will need to include DTMB staff, to discuss the two boilers.

NAME



DATE

4/10/2017

SUPERVISOR

