

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N754872469

FACILITY: DETROIT WILBERT CREMATION SERVICES EAST, LLC		SRN / ID: N7548
LOCATION: 44481 GROESBECK HWY, CLINTON TWP		DISTRICT: Warren
CITY: CLINTON TWP		COUNTY: MACOMB
CONTACT: Chris Gordon , Manager		ACTIVITY DATE: 07/02/2024
STAFF: Marie Reid	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY24 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On July 2, 2024, I (Marie Reid), Michigan Department of Environment of Great Lakes, and Energy – Air Quality Division (EGLE – AQD), conducted a scheduled inspection of, Detroit Wilbert Cremation Services East, LLC (SRN: N7548) located at 44481 Groesbeck Hwy, Clinton Township, MI. The purpose of this inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Administrative Rules; (PTI) Nos. 23-22, 33-14, 151-06, 296-05A.

I arrived at the facility at 9:56 am and I did not observe visible emissions coming from the stacks or fallout in the parking lot. I entered the facility and met with Chris Sanda, Manager and I later met with Chris Gordan, Manager. I identified myself and stated the purpose of the inspection. Chris Gordan gave me a tour of the facility and provided records. I reviewed the provided records at the facility during the inspection.

Facility Description

Detroit Wilbert provides cremation services to both humans and animals. The facility currently operates two human crematory furnaces and one animal crematory furnace. Chris said that there are two main cremation operators, and the facility operates Monday – Friday from 9am – 5pm and Saturday from 10am – 2pm. Chris informed me that they use a closed-circuit TV to visually monitor the stacks. This facility is a true minor for particulate matter (PM).

Chris stated Detroit Wilbert has modified the control panel of each permitted cremation unit (Clinton Township and Auburn Hills) so the operator can exercise manual control over the amount of throat (secondary combustion) air being introduced at the afterburner. Chris explained that if he observes a rapid rise in the secondary combustion chamber then he takes action around 1850° F to prevent the secondary combustion chamber temperature from reaching 2000° F. The action is to manually (via a custom installed potentiometer) open the butterfly valve that controls the flow of throat air. Chris stated that opening the butterfly valve introduces excess oxygen at the afterburner which then cools the exhaust gasses from the primary combustion chamber, which reduces the volume of the exhaust gasses, helps maintain the required residence time in the secondary combustion chamber, and provides the excess oxygen necessary for complete combustion as well as visible emissions control.

This modification appears logical and may be more effective in controlling visible emissions than an alternative procedure of turning off the primary combustion burner and reducing the amount of hearth (primary combustion) air. The reason Chris's control procedure appears logical is because restricting hearth air may reduce the amount of excess oxygen available

for complete combustion, especially if the operator does not have manual control over the throat air or if the cremation controls do not automatically increase the throat air.

Previous Violation Notice

On July 17, 2023, EGLE issued Detroit Wilbert a violation notice (VN) for combusting waste below the permitted minimum temperature of 1600°F in EUPETCREMATORY and failing to operate the incinerator in a satisfactory manner to control emissions (PTI No. 151-06, EUPETCREMATORY SC 1.3, SC 1.4, and SC 1.4 Appendix A No.7). During the inspection in July 2023, I observed Chris raise the set point of the secondary combustion chamber from 1550°F to 1650°F.

During this inspection, the circle temperature charts show that the permittee did not combust waste in EUPETCREMATORY unless the minimum temperature of 1600°F was maintained. EUPETCREMATORY was not operating at the time of the inspection, but I observed that the setpoint was still set to 1650°F. Based on this inspection and record review, this violation will be resolved.

Inspection & Compliance Evaluation

PTI No. 23-22 – EUCREMATORY04 (human)

I was informed by Chris Gordon that they had not received the cremation covered under PTI No. 23-22 from Matthews Environmental Solutions. Chris stated that they are not planning on getting this cremation unit in the near future. Since the installation of the equipment had not commenced within 18 months of this permit's issuance, this permit is considered void (General Condition 2). I informed Chris of this and told him that if they decide to install the cremation unit covered under this permit, they will need to contact EGLE.

PTI No. 33-14 – EUCREMATORY2 (human)

Emission Limits

The facility is limited to 0.20 lbs / 1,000 lbs gas calculated to 50% excess air in EUCREMATORY2 (SC I.1). The cremation unit should meet this emission limit based on proper operation of the secondary combustion chamber. An emissions test to verify compliance with the emission limit in SC I.1 has not been requested by the AQD.

Material Limits

The cremation unit is permitted to burn human pathological waste and associated materials (SC II.1). Chris stated that only human pathological wastes are burned. Cremation records I reviewed confirmed EUCREMATORY2 only burns human pathological waste and associated materials.

The cremation unit has a maximum charge weight of 750 lbs, where charge is the total weight of the material placed in the incinerator to be combusted (SC II.2). I reviewed the cremation records and did not see any weight exceedances.

The facility is required to use natural gas as fuel in the cremation unit (SC II.3). Chris stated that only natural gas is used, and I did not see any evidence of other types of fuel being used.

Process/Operational Limits

The facility cannot combust waste in EUCREMATORY2 unless a minimum temperature of 1600°F and a minimum retention time of 1.0 second in the secondary combustion chamber

are maintained (SC III.1). A charge was delivered to the facility during my site tour, and I watched the operator insert the charge into EUCREMATORY2. Chris informed me that the operator cannot physically insert the charge into the cremation unit until the set point temperature in the secondary combustion chamber is reached.

I observed the temperature of the secondary combustion chamber when the charge was inserted. I noted that the secondary combustion chamber was 1654°F. After the charge was inserted into EUCREMATORY2, I observed that there was no opacity coming from the associated stack. I reviewed some of the circular temperature charts during the inspection and did not see any instances of the temperature dropping below 1600°F while combusting waste.

EUCREMATORY2 is required to be installed, maintained, and operated in a manner satisfactory to the AQD to control emissions (SC III.2). Compliance with this condition is demonstrated through proper operation of the secondary combustion chamber and through following the recommended procedures in Appendix A. I reviewed the list of recommended procedures in Appendix A with Chris.

Appendix A

1. Chris stated that there are multiple trained operators responsible for compliance with the air pollution control requirements.
2. Grates are cleaned after each burn and the cremains are returned to the family.
3. Chris stated that they do not combust waste until the secondary combustion chamber is above 1600°F. The records I reviewed verify this statement.
4. Chris stated that they do not overload EUCREMATORY2. A scale is used to verify and record charge weight. The records I reviewed verify this statement.
5. Chris said the charge door is only opened to briefly check on the cremation process, if at all.
6. Chris stated that only human pathological waste and associated materials are burned in EUCREMATORY2. The records I reviewed verify this statement.
7. Chris verified that combustion air is adjusted as needed, according to the manufacturer's instructions.
8. There are cameras pointing at the stacks on the roof of the facility and a monitor is located in the cremation room. Chris said the monitor is checked during each cremation.
9. A copy of the manufacturer's manual is located in the office near the incinerators. A copy of the manufacturer's manual is printed out for new employee training.
10. Chris said they contact Matthew's Environmental Solutions for inspections on an as needed basis. Operators perform maintenance as needed (ex. replacing thermocouples).
11. Chris said they follow the manufacturer's operation and maintenance guidelines

Design/Equipment Parameters

As required by SC IV.1, EUCREMATORY2 is equipped with a device to continuously monitor the temperature in the secondary combustion chamber. I observed the chart recorder used to record the secondary combustion chamber temperature.

The facility is required to maintain a scale to verify charge weight (SC IV.2). I observed the scale attached to their lift table that is used to verify charge weight.

Monitoring/Recordkeeping

The facility must keep continuous secondary combustion chamber temperature records for EUCREMATORY2 (SC VI.2 & SC VI.5). I observed that continuous secondary combustion temperature records are maintained on circular charts.

The facility must keep daily records of the time (duration of burn), description and weight of each charge combusted in EUCREMATORY2 (SC VI.3). I verified that the duration of burn, date, and weight is noted on the circle temperature charts. The charge start time is recorded in the cremation logs.

The facility must record, on a calendar quarter basis, periods of time when only pathological waste is burned (SC VI.4). According to Chris and the cremation records I reviewed; only human pathological waste is burned in EUCREMATORY2.

The facility must keep a record of all service, maintenance, and equipment inspections for EUCREMATORY2 (SC VI.6). Chris said that no maintenance has been conducted on EUCREMATORY2 in the past year. Chris said extra thermocouples are kept on-site.

PTI 151-06 – EUPETCREMATORY (animal)

Emission Limits

The facility is limited to 0.20 lbs / 1,000 lbs gas calculated to 50% excess air in EUPETCREMATORY (SC 1.1). The cremation unit should meet this emission limit based on proper operation of the secondary combustion chamber. An emissions test to verify compliance with the emission limit in SC 1.1 has not been requested by the AQD.

Material Usage Limits

EUPETCREMATORY is permitted to burn animal pathological waste and associated materials (SC 1.2). Chris stated that only animal pathological wastes are burned. Cremation records I reviewed confirmed EUPETCREMATORY only burns animal pathological wastes and associated materials.

Process/Operational Limits

The facility is restricted from combusting waste in EUPETCREMATORY unless a minimum temperature of 1600°F and a minimum retention time of 1.0 second in the secondary combustion chamber are maintained (SC 1.3). The cremation unit was not operating at the time of the inspection. I observed the control panel on the unit and noted the secondary combustion chamber's set point is 1650°F. I reviewed some of the circular temperature charts during the inspection and did not see any instances of the temperature dropping below 1600°F while combusting waste.

EUPETCREMATORY is required to be installed, maintained, and operated in a manner satisfactory to the AQD to control emissions (SC 1.4). Compliance with this condition is demonstrated through proper operation of the secondary combustion chamber and through following the recommended procedures in Appendix A. I reviewed the list of recommended procedures in Appendix A with Chris.

Appendix A

1. Chris stated that there are multiple trained operators responsible for compliance with the air pollution control requirements.
2. Grates are cleaned after each burn and the cremains are returned to the family.
3. Chris stated that the burners preheat for at least 15 minutes before combusting waste.
4. Chris stated that they do not overload EUPETCREMATORY. A scale is used to verify and record charge weight. The records I reviewed verify this statement.

5. Chris said the charge door is only opened to briefly check on the cremation process, if at all.
6. Only animal pathological waste and associated materials are burned in EUPETCREMATORY. The records I reviewed verify this statement.
7. Chris verified that combustion air is adjusted as needed, according to the manufacturer's instructions.
8. There are cameras pointing at the stacks on the roof of the facility and monitor is located in the cremation room. Chris said the monitor is checked during each cremation.
9. A copy of the manufacturer's manual is located in the office near the incinerators. A copy of the manufacturer's manual is printed out for new employee training.
10. Chris said they contact Matthew's Environmental Solutions for inspections on an as needed basis. Operators perform maintenance as needed (ex. replacing thermocouples).

Monitoring

As required by SC 1.5, EUPETCREMATORY is equipped with a device to continuously monitor the temperature in the secondary combustion chamber. I observed the chart recorder used to record the secondary combustion chamber temperature.

Recordkeeping/Reporting/Notification

The facility must keep daily records of the time, description and weight of waste combusted in EUPETCREMATORY (SC 1.6). I verified that the time, description, and weight of all waste combusted in EUPETCREMATORY is recorded on the circle temperature charts.

The facility must keep secondary combustion chamber temperature records for EUPETCREMATORY (SC 1.7). I observed that continuous secondary combustion temperature records are maintained on circular charts.

PTI 296-05A – EUCREMATORY (human)

Emission Limits

The facility is limited to 0.20 lbs / 1,000 lbs gas calculated to 50% excess air in EUCREMATORY (SC 1.1). The cremation unit should meet this emission limit based on proper operation of the secondary combustion chamber. An emissions test to verify compliance with the emission limit in SC 1.1 has not been requested by the AQD.

Material Usage Limits

EUCREMATORY is permitted to burn human pathological waste and associated materials (SC 1.2). Chris stated that only human pathological wastes are burned. Cremation records I reviewed confirmed EUCREMATORY only burns human pathological wastes and associated materials.

Process/Operational Limits

The facility is restricted from combusting waste in EUCREMATORY unless a minimum temperature of 1400°F and a minimum retention time of 1.0 second in the secondary combustion chamber are maintained (SC 1.3). EUCREMATORY was operating at the time of the inspection. I observed the control panel and circle chart and noted that the secondary combustion chamber was 1656°F. I observed that there was no opacity coming from the associated stack. I reviewed some of the circular temperature charts during the inspection and did not see any instances of the temperature dropping below 1400°F while combusting waste.

This permit allows the permittee to operate the secondary combustion chamber at a minimum temperature of 1400° F, which is 200° F lower than the original permitted

minimum of 1600° F. The permit section approved the permit application to modify the original operating condition per information provided by the applicant and the manufacturer. The intent was to reduce fuel consumption while remaining in compliance with established emission limits, which (in theory) was expected to reduce the total consumption of a limited natural resource (natural gas) as well as reduce the total emissions of combustion byproducts (e.g. NOx).

Per Chris, operating the secondary combustion chamber minimum temperature at 1400° F is not efficient. Chris stated that the process runs so slowly that it appears any reduction in fuel consumption is offset by an increase in the time it takes to fully cremate the remains. Additionally, operating the secondary combustion chamber at a minimum temperature of 1400° F severely reduces the ability of the cremation unit to tolerate momentary temperature drops associated with occasional opening of the primary combustion chamber charging door. Therefore, Chris has elected to operate EUCREMATORY at a minimum temperature of 1650° F, which is a temperature he believes, per experience, results in proper operation of the cremation unit. Chris stated that the attempt to reduce fuel consumption by running at 1400°F is offset by an increase of time it takes to fully cremate the remains. Therefore, Chris elects to operate EUCREMATORY at 1650°F.

EUCREMATORY is required to be installed, maintained, and operated in a manner satisfactory to the AQD to control emissions (SC 1.4). Compliance with this condition is demonstrated through proper operation of the secondary combustion chamber and through following the recommended procedures in Appendix A. I reviewed the list of recommended procedures in Appendix A with Chris.

Appendix A

1. Chris stated that there are multiple trained operators responsible for compliance with the air pollution control requirements.
2. Grates are cleaned after each burn and the cremains are returned to the family.
3. Chris stated that the burners preheat for at least 15 minutes before combusting waste.
4. Chris stated that they do not overload EUCREMATORY. A scale is used to verify and record charge weight. The records I reviewed verify this statement.
5. Chris said the charge door is only opened to briefly check on the cremation process, if at all.
6. Only human pathological waste and associated materials are burned in EUCREMATORY. The records I reviewed verify this statement.
7. Chris verified that combustion air is adjusted as needed, according to the manufacturer's instructions.
8. There are cameras pointing at the stacks on the roof of the facility and monitor is located in the cremation room. Chris said the monitor is checked during each cremation.
9. A copy of the manufacturer's manual is located in the office near the incinerators. A copy of the manufacturer's manual is printed out for new employee training.
10. Chris said they contact Matthew's Environmental Solutions for inspections on an as needed basis. Operators perform maintenance as needed (ex. replacing thermocouples).

Monitoring

As required by SC 1.5, EUCREMATORY is equipped with a device to continuously monitor the temperature in the secondary combustion chamber. I observed the chart recorder used to record the secondary combustion chamber temperature.

Recordkeeping/Reporting/Notification

The facility must keep daily records of the time, description and weight of waste combusted in EUCREMATORY (SC 1.6). I verified that the duration of burn, date, and weight is noted on the circle temperature charts. The charge start time is recorded in the cremation logs.

The facility must keep secondary combustion chamber temperature records for EUCREMATORY (SC 1.7). I observed that continuous secondary combustion temperature records are maintained on circular charts.

Additional Observations**Storage**

Detroit Wilbert has a walk-in refrigeration unit to store human remains prior to cremation. They also have a deep freezer where animal remains are stored prior to cremation.

Secondary processing

I observed that the facility has separate secondary processing areas for humans and animals. In both processing areas, metal is removed from the cremains and disposed of. Then, the cremains are ground up in a grinder for easy packaging. The grinders in both secondary processing areas are exhausted to the general in-plant environment.

Conclusion

Based on this inspection and record review, the following violation notice will be resolved: PTI No. 151-06, EUPETCREMATORY, SC 1.3, SC 1.4, and SC 1.4 Appendix A No. 7. issued on July 17, 2023. Detroit Wilbert Cremation Services East, LLC is in compliance all the applicable requirements evaluated.

NAME Maui ReidDATE 07/09/2024SUPERVISOR K. Kelly