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

N550/72468		
FACILITY: DETROIT WILBERT CREMATION		SRN / ID: N5507
LOCATION: 70 S SQUIRREL RD UNIT M, AUBURN HILLS		DISTRICT: Warren
CITY: AUBURN HILLS		COUNTY: OAKLAND
CONTACT: Chris Gordon , Manager		ACTIVITY DATE: 07/03/2024
STAFF: Marie Reid	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY24 scheduled inspection		
RESOLVED COMPLAINTS:		

On July 3, 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 (SRN: N5507) located at 70 S Squirrel Rd Unit M, Auburn Hills, 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. 160-95 and 160-95A.

I arrived at the facility at 9:58 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 Gordon, Manager. I identified myself and stated the purpose of the inspection. Chris 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 Cremation is a human crematorium. The facility currently operates two Matthews Natural Gas Fired Crematory Incinerators. There are two operators at the facility. The hours of operation are Monday – Friday 9am-5pm and Saturday from 10am-2pm. This facility is a true minor for particulate matter (PM).

Chis 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.

Inspection & Compliance Evaluation PTI No. 160-95 Special Conditions (Unit #1)

15. The particulate emission from the cremation unit shall not exceed 0.20 pound per 1,000 pounds of exhaust gases, corrected to 50% excess air. The cremation unit should meet this emission limit based on proper operation of the secondary combustion chamber.

16. Visible emissions from the cremation shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a). Both cremation units were operating at the time of this inspection. There is a skylight above the cremation units to view the stacks. I did not observe visible emissions exiting the stacks during this inspection.

17. Verification of particulate emission rates from the cremation unit by testing, at owner's expense, in accordance with Commission requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification. An emissions test to verify compliance with the emission limit in SC 15 has not been requested by the AQD.

18. Proper operation and adequate maintenance of the cremation unit to control emissions is required. A list of recommended operating and maintenance procedures is enclosed. I reviewed the Incinerator Operator Guidelines with Chris.

Incinerator Operation Guidelines

1. There are two designated trained operators that are responsible for compliance with state air pollution emission limitations.

2. Grates are cleaned after each burn and cremains are returned to the family.

3. Chris stated that the burners preheat until the secondary combustion chamber reaches

1650°F before combusting waste, which takes around 10-30 minutes, depending on the time of day. Chris stated that the cremation unit takes longer to preheat before the first cremation of the day because the unit is cold.

4. Chris stated that they do not overload the cremation unit. According to the Power-Pak II Cremation System manual, the cremation unit may operate 24 hours a day and the burn rate is 100 lbs/hr. A scale is used to verify and record charge weight.

5. Chris said the charge door is only opened to briefly check on the cremation process, if at all.

6. Chris said that only human pathological waste and associated materials (type 4 waste) are burned in the cremation unit. The records I reviewed verify this statement.

7. Chris verified that combustion air is adjusted as needed, according to the manufacturer's instructions.

8. Chris said there is a sky light above the cremation units so the operators can observe the stacks during every 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. Detroit Wilbert Cremation Services contracts Matthew's Environmental Solutions for inspections.

19. Facility shall not operate the cremation unit unless the secondary combustion chamber preheats for 30 minutes prior to the firing of the primary combustion chamber. Chris stated that the burners preheat until the secondary combustion chamber reaches 1650°F before combusting waste, which takes around 10-30 minutes, depending on the time of day. Chris

stated that the cremation unit takes longer to preheat before the first cremation of the day because the unit is cold.

20. Facility shall not operate the cremation unit unless a minimum temperature of 1600 degrees Fahrenheit and a minimum retention time of 1.5 seconds in the secondary combustion chamber is maintained. This cremation unit was operating at the time of the inspection. Based on the circle chart, the cremation unit had been operating for less than 10 minutes. The control panel on the machine and circular temperature recorder both indicated the furnace was operating at 1607°F. Based on the circle temperature charts, the secondary combustion chamber temperature did not drop below 1600°F while combusting waste.

21. The exhaust gases from the cremation unit shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 20 inches at an exit point not less than 25 feet above ground level. I did not verify stack parameters during this inspection. I observed the stacks on the top of the facility and confirmed they were unobstructed. I did not observe visible emissions coming from either stack during this inspection.

22. The disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air. Emissions from the process are passed through an afterburner, furthering the destruction of the particulate matter from the process. The cremains are collected from the incinerator and returned to the family of the deceased.

23. Facility shall not burn any waste in the cremation unit other than the following: Type 4 -- Human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds, and similar sources.

Chris stated that only human pathological wastes are burned. Cremation records I reviewed confirmed the cremation unit only burns human pathological waste and associated materials.

PTI No. 160-95A Special Conditions (EUCREMATORY2/Unit #2)

1.1 The particulate emission from the cremation unit shall not exceed 0.20 pound per 1,000 pounds of exhaust gases, corrected to 50% excess air. The cremation unit should meet this emission limit based on proper operation of the secondary combustion chamber. An emissions test to verify compliance with this emission limit has not been requested by the AQD.

1.2 The facility shall not burn any waste in EUCREMATORY2 other than the following wastes:

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.

Chris stated that only human pathological wastes are burned. Cremation records I reviewed confirmed EUCREMATORY2 only burns human pathological wastes and associated materials.

1.3 The facility shall not combust waste in EUCREMATORY2 unless a minimum temperature of 1600°F and a minimum retention time of 1.0 seconds in the secondary combustion chamber are maintained. The temperature charts which I reviewed on-site showed that the facility routinely maintains a temperature of 1650°F in the secondary chamber.

1.4 The incinerator shall be installed, maintained, and operated in a satisfactory manner to control emissions from EUCREMATORY2. A list of recommended operating and maintenance procedures is specified in Appendix A. I reviewed Appendix A with Chris.

Appendix A – Incinerator Operation and Maintenance Guidelines

1. There are two designated trained operators that are responsible for compliance with state air pollution emission limitations.

2. Grates are cleaned after each burn and cremains are returned to the family.

3. Chris stated that the burners preheat until the secondary combustion chamber reaches 1650°F before combusting waste, which takes around 10-30 minutes, depending on the time of day. Chris stated that the cremation unit takes longer to preheat before the first cremation of the day because the unit is cold.

4. Chris stated that they do not overload the cremation unit. The permit states that the cremation unit's maximum charge is 750 pounds. A scale is used to verify and record charge weight. The records I reviewed verified this statement.

5. Chris said the charge door is only opened to briefly check on the cremation process, if at all.

6. Chris said that only human pathological waste and associated materials are burned in the cremation unit. The records I reviewed verify this statement.

7. Chris verified that combustion air is adjusted as needed, according to the manufacturer's instructions.

8. Chris said there is a sky light above the cremation units so the operators can observe the stacks during every 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. Detroit Wilbert Cremation Services contracts Matthew's Environmental Solutions for inspections.

1.5 The facility shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the temperature in the secondary combustion chamber of EUCREMATORY2 on a continuous basis. I observed a temperature chart was equipped in EUCREMATORY2 to monitor and record the temperature in the secondary combustion chamber.

1.6 The facility shall keep, in a satisfactory manner, daily records of the time, description and weight of waste combusted in EUCREMATORY2, as required by SC 1.2. I verified that the time, description, and weight of all weight combusted in EUCREMATORY2 is recorded on circular temperature charts.

1.7 The facility shall keep, in a satisfactory manner, secondary combustion chamber temperature records for EUCREMATORY2, as required by SC 1.5. I observed that secondary combustion chamber temperature is recorded on circular temperature charts.

Conclusion

Based on this inspection and record review, Detroit Wilbert Cremation Services is in compliance all the applicable requirements evaluated.

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DATE 7/10/2024 SUPERVISOR K. Helly