

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

P050267889

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| FACILITY: LOVING MEMORY CREMATION | | SRN / ID: P0502 |
| LOCATION: 357 HOWARD STREET, LAPEER | | DISTRICT: Lansing |
| CITY: LAPEER | | COUNTY: LAPEER |
| CONTACT: Greg Robinette , Co-Owner | | ACTIVITY DATE: 06/28/2023 |
| STAFF: Daniel McGeen | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR |
| SUBJECT: Unannounced inspection of facility last inspected by AQD in 2017. | | |
| RESOLVED COMPLAINTS: | | |

On June 28, 2023, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of Loving Memory Cremation, which operates a crematory incinerator for deceased pets.

Environmental contacts:

- Greg Robinette, Co-Owner; 810-728-6529; gregandbobbie@gmail.com
- Julie Richardson; Vice President; 810-728-6529

EGLE, AQD contact:

Dan McGeen, inspector; 517-648-7547; mcgeend@michigan.gov

Emission units:

| Emission Unit* ID | Emission Unit Description | Permit to Install (PTI) No. | Compliance Status |
|-------------------|---|-----------------------------|-------------------|
| EUCFS2300 | <p>Cremation Systems Model CFS-2300</p> <p>Fuel type: natural gas</p> <p>Maximum charge: 300 pounds</p> <p>Burn rate: 150 lbs/hr</p> <p>Charge type: animal (pet) remains</p> | 52-14 | Compliance |

***An emission unit is any part of a stationary source that emits or has the potential to emit an air contaminant.**

Regulatory overview:

This company has a Permit to Install (PTI), No. 52-14, issued on 4/18/2014, for a veterinary crematory facility. They are permitted to cremate the remains of deceased pets, but not any human remains. They are considered a minor source for criteria air pollutants, that is, those pollutants for which there is a National Ambient Air Quality Standard (NAAQS). These pollutants include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds, lead, particulate matter smaller than 10 microns (PM-10), and particulate matter smaller than 2.5 microns (PM2.5). A major source would have the Potential to Emit (PTE) 100 tons per year (TPY) or more of one of the criteria pollutants.

The facility is considered a minor source, or *area source*, for Hazardous Air Pollutants (HAPs). A major source of HAPs has a PTE of 10 TPY or more of a single HAP, or 25 TPY or more of aggregate HAPs.

The facility does not have a boiler onsite, only a hot water heater which is about 5 gallons in size. A natural gas-fired boiler at an area source of HAPs would not be subject to 40 CFR Part 63, Subpart JJJJJJ, 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 standard, the unit must be no more than 120 gallons in capacity. The unit at Loving Memory Cremation appears to qualify as a hot water heater and not a boiler, thus it is not subject to Subpart JJJJJJ.

Fee status:

This facility is not considered fee-subject, because it is not a major source for either criteria pollutants or HAPs, nor is it subject to any federal New Source Performance Standard or Maximum Achievable Control Technology standard.

The facility is not required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS), or its successor, MiEnviro.

Location:

This facility is located at 357 Howard Street, Lapeer, 48446, in Lapeer County. It is in the west wing of a small industrial building, the east part of which is home to an upholstery manufacturing service. It is near various light industrial and commercial businesses. The nearest residences are about 500 feet to the west, 750 feet to the south, and 480 feet to the northeast, according to ArcGIS Explorer.

Most recent inspections:

- 10/26/2027: No violations identified.
- 8/31/2016: No violations identified.

Most recent complaint and actions taken:

9/25/2017: AQD received a complaint of high opacity from the crematory incinerator from the City of Lapeer, with photos of smoke. On 9/26, AQD contacted Loving Memory Cremation. On 9/30, Vice President Julie Richardson indicated that the manufacturer did a remote inspection and determined that a smoke sensor needed to be recalibrated. AQD further followed up by conducting an inspection on 10/26/2017.

Safety apparel required:

Safety glasses with side shields are recommended, and having hearing protection available, at staff's discretion.

Odor evaluation:

AQD was represented by Dan McGeen, inspector. He conducted an odor evaluation at about 11:50 AM, as he approached.

- Weather conditions: Sunny, hazy from wildfire smoke, and humid, with winds out of the northwest at 5-10 miles per hour
- Odors detected: None.
- Route taken: Turill Ave. to Bentley St. to Higley St. to Howard St. to site

Arrival:

- Arrival time: 11:51 AM
- Visible emissions: None
- Odors in parking area: None

At 11:51 AM, D. McGeen found the front door to be locked, but he went around back, where a vehicle was parked. The overhead back door to the business was open, so he walked inside, and met with Greg Robinette, Co-Owner. The crematory incinerator was operating at this time.

G. Robinette said that business has been down from last year. They are running 3-4 days per week now, and no weekends.

Inspection:

G. Robinette said that there have been no modifications to the equipment since the 2017 inspection by AQD. However, he mentioned that a contractor, Armil Cremations, did a full inspection of the crematory incinerator two weeks ago, on 6/14. He said that a thermocouple was replaced, even though it was still functioning, because it was getting ready to go.

He had just started a load, G. Robinette said. He said that 2 loads/day is their norm, with 3 loads/day being a typical maximum. Twice, he said, they have done 4 loads/day, and that it is all based on weight.

The current load was said to be 185 lbs, and subsequent loads are less than the one before. The current afterburner temperature was 1,652 degrees F. The afterburner is always maintained at 1,640 degrees F, G. Robinette said, and the machine regulates itself as to the amount of excess air needed. The main or primary chamber temperature was said to vary, depending on the weight of the load, from 1,800-1,900 degrees F, but the unit will shut itself off if the temperature should reach 2,200 degrees F. The stack temperature was said to vary, based on the load and ambient temperature, while the afterburner is a constant.

D. McGeen checked compliance with PTI 52-14, and the results are summarized below:

EUCFS2300:

DESCRIPTION: Cremation Systems natural gas fired CFS-2300 Cremation Chamber rated at 530,000 Btu/hr heat input

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Secondary chamber with afterburner rated at 812,000 Btu/hr heat input

Compliance check with the special conditions (SC) of PI 52-14:

| PTI 52-14 | Requirement | Comments | Complies? |
|-----------------------|--|--|-----------|
| EUCFS2300, SC I.1 | Particulate matter limit of 0.20 lbs/1,000 lbs gas | With 0% opacity, particulate matter is not expected to be at risk of exceeding permitted limit. | Yes |
| EUCFS2300, SC II.1 | <p>The permittee shall not burn any waste in EUCFS2300 other than the following: (40 CFR 60.51c)</p> <p>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. This permit applies to ANIMAL pathological waste and associated materials.</p> | G. Robinette indicated they only cremate animal remains. He stated that blankets and black plastic bags used to cover deceased pets are thrown in the trash. He added that white, zippered plastic bags are reused, but are bleached if there are any blemishes on them. | Yes |
| EUCFS2300, SC II.2 | The permittee shall not charge more than 300 pounds per charge in EUCFS2300. | AQD was advised that the first load of the day is the largest, and is typically below 270 lbs, with successive loads in the day being smaller. Pursuant to a post-inspection request, G. Robinette emailed a photo (attached) of their recordkeeping for 6/28-30/2023, showing that the largest load for that time period was 200 lbs on 6/30. | Yes |
| EUCFS2300, SC II.3 | The permittee shall not burn any fuel in EUCFS2300 other than natural gas. | Natural gas appeared to be the only fuel being supplied to the crematory incinerator. | Yes |
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| EUCFS2300, SC III.1 | The permittee shall not combust waste in EUCFS2300 unless a minimum temperature of 1600°F and a minimum retention time of 1.0 seconds in the secondary combustion chamber are maintained. | The incinerator secondary combustion chamber or afterburner was operating at 1652 degrees F, at 12:30 PM. The manufacturer's information in the permit application identifies a retention time of 1.5 seconds minimum. G. Robinette indicated that the secondary combustion chamber is always maintained at 1640 degrees F, and they do not combust remains below this temperature. | Yes |
| EUCFS2300, SC III.2 | The incinerator shall be installed, maintained, and operated in a satisfactory manner to control emissions from EUCFS2300. A list of recommended operating and maintenance procedures is specified in Appendix A. | The company appeared to be following the recommended operating and maintenance procedures in Appendix A, discussed later in this report. | Yes |
| EUCFS2300, SC IV.1 | 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 of EUCFS2300 on a continuous basis. | There is a temperature measuring device as well as a recording device for the secondary combustion chamber or afterburner. The digital display currently read 1652 degrees F. G. Robinette emailed to AQD a JPG image of the electronic records from 6/30/2023 kept by the crematory control system (attached). This shows the secondary combustion chamber temperature throughout Run #1 for the day. | Yes |
| EUCFS2300, SC IV.2 | The permittee shall maintain a scale at the facility for the purpose of verifying the charge weight as required by SC II.2. | D. McGeen was shown the facility's scale, which was said to have been acquired after AQD's 10/26/2017 inspection. | Yes |
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| EUCFS2300, SC V. | NA | NA | NA |
| EUCFS2300, SC VI.1 | The permittee shall complete all required records in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. | The observed records were in an acceptable format. They included cremation tag number, pet name, whether private or communal, date, owner name, weight of the deceased pet, vet clinic name, and the initials of the crematory operator. Please see attached photo of records for 6/28-30/2023. They are also said to record breed and color of pet. D. McGeen was also shown paper tags and metal tags which are part of their system. The metal tags remain intact, after cremation of pet remains. | Yes |
| EUCFS2300, SC VI.2 | The permittee shall monitor and record the temperature in the secondary combustion chamber of EUCFS2300 on a continuous basis. | G. Robinette emailed to AQD a JPG image of the electronic records from 6/30/2023 kept by the crematory control system (attached). This shows the secondary combustion chamber temperature throughout Run #1 for the day. | Yes |
| EUCFS2300, SC VI.3 | The permittee shall keep, in a satisfactory manner, daily records of the time (duration of burn) and weight of waste combusted in EUCFS2300, as required by SC II.2. The permittee shall keep all records on file and make them available to the Department upon request. | D. McGeen was also shown that they track on paper the time (duration) of burn, and weight of the charge. Please see attached photo of recordkeeping from 6/28-30/2023. | Yes |
| EUCFS2300, SC VI.4 | The permittee shall keep, in a satisfactory manner, records on a calendar quarter basis of the periods of time when pathological waste is burned in the incinerator, as required by 40 CFR 60.50c(b). The permittee shall keep all | They are keeping daily records throughout each quarter of the dates and times when pathological waste is being burned. Please see attached photo. | Yes |

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| | records on file and make them available to the Department upon request. | | |
| EUCFS2300, SC VI.5 | The permittee shall keep, in a satisfactory manner, secondary combustion chamber temperature records for EUCFS2300, as required by SC VI.2. The permittee shall keep all records on file and make them available to the Department upon request. | G. Robinette emailed to AQD a JPG image of the electronic records from 6/30/2023 kept by the crematory control system (attached). This shows the secondary combustion chamber temperature throughout Run #1 for the day. | Yes |
| EUCFS2300, SC VI.6 | The permittee shall keep, in a satisfactory manner, a record of all service, maintenance and equipment inspections for EUCFS2300. The record shall include the description, reason, date and time of the service, maintenance or inspection. The permittee shall keep all records on file and make them available to the Department upon request. | They are said to be keeping these records. On 9/7/2023, AQD requested a copy of the most recent maintenance record. | Yes |
| EUCFS2300, SC VII. | NA | NA | NA |
| EUCFS2300, SC VIII.1 | The exhaust gases from the stack SVCFS2300 shall be discharged unobstructed vertically upwards to the ambient air through a stack with a maximum diameter of 20 inches and a minimum height above ground level of 21.5 feet. | The exhaust stack appeared to meet these parameters. | Yes |
| EUCFS2300, SC IX. | NA | NA | NA |

Appendix A

Incinerator Operation and Maintenance Guidelines

| Appendix A Condition | Requirement | Comments | Complies? |
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| 1 | Designate a trained operator for the unit and make that person responsible for compliance with the air pollution control requirements. | G. Robinette indicated that they have several trained operators, but two (including himself) are the regular operators. | Yes |
| 2 | Clean grates before each day's operation (more often if necessary), and dispose of the ashes properly. | G. Robinette indicated that the hearth is cleaned out before each load, even if they do 2 or 3 loads/day. | Yes |
| 3 | Do not combust waste until the secondary combustion chamber (afterburner) is at or above the minimum required temperature. This temperature must be maintained for the duration of the burn cycle. | AQD was informed that the main burner for the primary chamber only turns on once the afterburner is at 1,640 degrees F, above the minimum required 1,600 degrees F. | Yes |
| 4 | Do not overload the incinerator. Stay within the given loading rates and follow the manufacturer's instructions. | AQD was informed that they stay below the maximum allowable charge weight of 300 lbs, and recordkeeping for 6/28-30/2023 confirmed this. Please see attached photo. | Yes |
| 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. | AQD was informed that they can't open the charging door without setting off a safety alarm. | Yes |
| 6 | Burn only the type of wastes that the 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). | Their records indicated that they only burn the type of wastes that the unit has been permitted to burn. The unit appeared to be operating efficiently, based upon today's observations. | Yes |

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| 7 | Keep the combustion air adjusted according to the manufacturer's instructions. | AQD was informed that the unit adjusts the combustion air automatically and can shut itself down if needed. G. Robinette added that it has not needed to shut itself down in years. | Yes |
| 8 | Observe the stack frequently and adjust the operation as necessary to eliminate smoke and fly ash. | AQD was informed that the unit has an "electronic eye" which monitors for visible emissions and adjusts the incinerator's operations. The electronic eye would send an alarm if there was a problem, G. Robinette said. | Yes |
| 9 | Post a copy of the manufacturer's manual and this Guideline near the incinerator. | The manufacturer's manual was located at a desk, near the incinerator. They also have a copy of the PTI, which includes this guideline, here and at their main office. | Yes |
| 10 | Make quarterly inspections to check and service all of the equipment. If a qualified person is not available for proper inspections, a service contract with a reputable manufacturer is advisable. | AQD was informed that they are always looking at the electronic eye and thermocouples, and that the incinerator was recently serviced. On 9/7/2023, AQD requested a copy of the most recent maintenance record. | Yes |
| 11 | Follow manufacturer's operation and maintenance guidelines. | AQD was advised that they do this, and that they have a set of instructions from the manufacturer near the manufacturer's manual. | Yes |

Conclusion:

No instances of noncompliance could be found. Housekeeping appeared good at the site.

NAME *David A. Smith*

DATE 9/11/2023

SUPERVISOR *RB*