

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

M351173108

FACILITY: MACOMB COUNTY ANIMAL CONTROL		SRN / ID: M3511
LOCATION: 21417 DUNHAM, CLINTON TWP		DISTRICT: Warren
CITY: CLINTON TWP		COUNTY: MACOMB
CONTACT: Chief Randazzo , Chief Animal Control Officer		ACTIVITY DATE: 08/08/2024
STAFF: Marie Reid	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: FY24 Inspection		
RESOLVED COMPLAINTS:		

On, August 8, 2024, I (Marie Reid), Michigan Department of Environment of Great Lakes, and Energy – Air Quality Division (EGLE – AQD), conducted a scheduled inspection of, Macomb County Animal Control (Macomb) (SRN: M3511) located at 21417 Dunham, 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; and the conditions of Permit to Install (PTI) No. 533-94A.

I arrived at the facility at 8:30am and met with Chief Randazzo, Chief Animal Control Officer. I identified myself and stated the purpose of the inspection. We went to the back of the facility where the incinerator is located. I observed staff shoveling the previous day's ashes (cremains) from the unit. The facility did not have any charges to burn for the day, but I requested the staff to turn on the cremation unit so I can observe the unit's start-up. After I observed the cremation unit, we had a meeting in the office and reviewed records. All cremation logs and circle temperature carts were reviewed at the facility. I was provided copies of maintenance records. These records are available on the AQD shared drive at the following address: S:\Air Quality Division\STAFF\Marie Reid\Inspection Documents\FY24\M3511 – MCAC. These records are also located in Macomb County Animal Control's file in the Warren District Office.

Facility Description

Macomb operates as an animal shelter for pet adoption, and they have a vet clinic. They currently have one JAR MCP 350 incinerator (EUCREMATORY1). The unit model is capable of processing 350lbs, but PTI No. 533-94 restricted Macomb to 300 lbs per load. This facility is a true minor of particulate matter (PM). Chief Randazzo informed me that in 2025, they are beginning the process of moving to a different building and purchase a new cremation unit.

Compliance Evaluation – PTI No. 533-94A

Emission Limits

The cremation unit has a PM emission limit of 0.20 lbs / 1,000 lbs of gas calculated 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.

Material Limit

The cremation unit is permitted to burn institutional wastes, non-hazardous pharmaceutical wastes (in-house, expired vet medications), animal pathological wastes, and confiscated drugs and pharmaceuticals (not from pharmaceutical take back events). Institutional waste

is any waste combusted at Macomb because Macomb is part of the Macomb County Government and is defined as an institutional facility. The disposal method used to dispose of the expired vet medications is to inject it into an already deceased animal (usually deer) before loading it into the incinerator. According to a list of vet medications the facility provided, these medications include Sodium Pentobarbital (Fatal Plus), Xylazine, Ketamine, Acepromazine, Telazol, and Dexdomitor.

I reviewed cremation records from January 1, 2024 – August 7, 2024. The cremation records I reviewed showed that the facility only burns wastes they are permitted to burn. Based on the provided records, the facility burned institutional waste, pathological waste, and confiscated drugs/pharmaceuticals in 2024. The facility burned confiscated drugs from the Warren Police Department in February 2024. No expired vet medications have been burned in 2024.

The cremation unit has a maximum charge weight of 300 pounds per charge where charge is the total weight of the material placed in the incinerator to be combusted. I reviewed the cremation records and did not see any weight exceedances.

The cremation unit shall burn a minimum of 90 percent pathological waste by weight as defined in SC II.1 on a calendar quarterly basis and shall exclude the weight of auxiliary fuel and combustion air. I reviewed the cremation records and verified the facility burns over 90 percent pathological waste. The facility only burned 78.5 lbs of nonpathological waste in 2024.

The cremation unit shall not burn any hazardous material, including methamphetamine and methamphetamine-contaminated items. The vet medications that Macomb can burn do not appear to have characteristics of hazardous waste, as defined in 40 CFR Part 261 Subpart C: ignitability, corrosivity, reactive/dangerous, and toxicity. I reviewed the cremation records and did not see the facility burn hazardous wastes.

The facility is required to use natural gas as fuel in the cremation unit. Chief Randazzo stated that only natural gas is used. I observed the gas line that leads into the cremation unit.

Process/Operational Limits

The facility cannot combust waste in any of the cremation units unless a minimum temperature of 1600°F and a minimum retention time of 1 second in the secondary combustion chamber are maintained. I reviewed the circular temperature charts and cremation logs and noted that the secondary combustion chamber temperature had almost never achieved nor maintained the required 1600° F while combusting waste. This constitutes a violation of PTI No. 533-94A, EUCREMATORY1 SC III.1. This non-compliance will be cited in a violation notice.

As stated in previous inspection reports, Chief Randazzo stated that it is impossible for the secondary combustion chamber temperature to reach 1600° F before inserting a charge, as the unit was built before their permit had a minimum temperature requirement. According to the circle charts, the cremation unit appears to reach around 1200°F after the charge begins to burn.

This unit was built before the requirement to obtain a permit to install. I reached out to John, the manufacturer of the cremation unit, to ask about the inability to reach 1600°F. John stated the secondary burner was 1,200,000 BTUH at 7 to 11" water column, which was more than adequate to achieve 1500°F to 1600°F provided the doors are closed, refractory is intact, and adequate warm up time is given. He suggested that the thermocouple was probably placed in the least hot zone so as to extend the life of the thermocouple, and that is why the temperature of the unit reads very low but does not produce visible emissions. I could not find a layout of the machine to verify this.

According to the J.A.R Incinerator Service operating instructions, number 4 of "Daily Operating Procedure" states to, "Start unit. When secondary chamber warm-up temperature is attained primary burners will ignite waste." I asked Chief Randazzo what the secondary combustion chamber temperature is set to reach before the primary burners are ignited and he said that he did not know. Chief Randazzo verbally committed to reach out to the permit section to potentially modify their permit.

I observed staff turn the unit on with no charge. I observed the digital readout monitor on the temperature monitoring device that was displaying two different temperatures. Chief Randazzo was not positive which temperature was reading the primary chamber vs the secondary chamber. The cremation unit was turned on at 8:45am. I noted the top temperature on the control panel read 432°F and the bottom temperature read 354°F. I observed the control panel again at 9:25am. I noted the top temperature read 676°F and the bottom temperature read 469°F. Macomb staff said they usually wait a few hours for the cremation unit to heat up before combusting waste.

The cremation unit is required to be installed, maintained, and operated in a manner satisfactory to the AQD to control emissions. 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 Chief Randazzo.

Appendix A

1. Chief Randazzo stated that 8 staff members operate the cremation unit, and each staff member is trained on how to operate the unit.
2. Grates are cleaned each morning.
3. The unit is preheated for at least 15 minutes. Chief Randazzo stated they preheat the cremation unit for a few hours in the mornings.
4. Chief Randazzo stated that they do not overload the cremation unit. A scale is used to verify charge weight for pathological waste. Roadkill weight is estimated based on the species. The records I reviewed verify this statement.
5. Macomb staff stated that the charge doors are opened as infrequently as possible. They stated that deer are typically burned first.
6. Chief Randazzo stated that they only burn the types of wastes the incinerator has been approved to burn. The records I reviewed verify this statement.
7. Chief Randazzo stated that the combustion air is adjusted as needed.
8. The cremation unit is located outdoors so it is easy to view the stack during cremations.
9. The manufacturer manual is in the office file cabinet, near the incinerator.
10. Macomb has frequent maintenance/inspections done on the cremation unit by a third-party contractor.

The facility shall not operate EUCREMATORY1 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the cremation of non-pathological waste is implementation and maintained. Chief Randazzo is currently working with EGLE-AQD to create the MAP. I reviewed the draft MAP. Chief Randazzo said that staff are trained to hit the emergency stop button on the cremation unit or chart recorder if they notice a malfunction (smoke/flames). He stated that they have not ever had to push the emergency stop button. Based on my observations during my inspection and record review, the MAP is being followed for EUCREMATORY1.

Design/Equipment Parameters

The permittee is required to install, maintain, and operate the secondary combustion chamber in the cremation unit a satisfactory manner. Waste was combusted in EUCREMATORY1 when the secondary combustion chamber temperature is below the minimum required temperature of 1600°F. This constitutes a violation of PTI No. 533-94A, EUCREMATORY1 SC IV.1. This non-compliance will be cited in a violation notice.

The cremation unit is required to be equipped with a device to monitor and record the temperature in the secondary combustion chamber on a continuous basis. I observed that EUCREMATORY1 is equipped with a circular temperature chart to monitor the secondary combustion chamber temperature.

The facility is required to maintain a scale for verifying the charge weight. I observed the scale that is used to weigh domestic animals that are incinerated. It is not possible for the facility to weigh each roadkill load with their existing scale, and it would be extremely unhygienic to transport roadkill inside of a vet clinic. Macomb and the District have previously had discussions on this issue and the District allows Macomb to assume an approximate weight depending on the species of the road kill animal.

Testing/Sampling

This permit requires the permittee to verify PM emission rates from EUCREMATORY1 if requested by the AQD district supervisor. AQD has not requested stack testing to confirm the PM emission rates.

Monitoring/Recordkeeping

The facility must keep continuous secondary combustion chamber temperature data. I verified that continuous secondary combustion temperature records are maintained on circular charts for every cremation.

The facility must keep daily records of the description and weight of each charge burned in EUCREMATORY1. I verified that the cremation logs include each charge's description and weight. Although the facility is not required to keep the time (duration of burn) for each cremation, the facility notes each the start time for each burn. Department.

The facility must record, on a calendar quarter basis, periods of time when only pathological waste is burned. The facility keeps separate cremation logs for pathological and non-pathological wastes.

The facility must keep records of all service, maintenance, and equipment inspections. I verified that these maintenance records are kept. In February 2023, the secondary burner was repaired after it was found to be cutting in and out. In May 2024, the refractory lining was replaced in the cremation unit.

Conclusion

Macomb County Animal Control operated EUCREMATORY1 while the secondary combustion chamber was below 1600°F, which is a violation of EUCREMATORY1 SC III.1, SC IV.1, and AQD Rule 910. A violation notice will be issued to Macomb County Animal Control for this non-compliance.

Based on the field inspection and the records provided, Macomb County Animal Control is in compliance with all other requirements evaluated.

NAME Mar Ral DATE 8/14/2024 SUPERVISOR K Kelly