

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

M351159717

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: 08/31/2021
STAFF: Robert Elmouchi	COMPLIANCE STATUS: Unknown	SOURCE CLASS: MINOR
SUBJECT: Targeted inspection.		
RESOLVED COMPLAINTS:		

On August 31, 2021, I conducted a virtual targeted inspection of Macomb County Animal Shelter (SRN: M3511), located at 21417 Dunham Road, Clinton Township, Michigan 48036. 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); the administrative rules; and the conditions of Permit to Install (PTI) No. 533-94.

The Macomb County Animal Shelter (MCAS) division's services include pet adoptions, lost and found for pets, animal cruelty investigations, dog licensing, animal bite reports, and rescue services for domestic animals and injured or sick wildlife. MCAC has achieved an animal survival rate of approximately 90%, which has allowed the facility to dismantle two of the three permitted cremation units with a corresponding reduction in the emission of air contaminants.

This facility has one active PTI, which is No. 533-94. PTIs No. 52-74i and 11-84i have been voided per the inspection I conducted on August 7, 2019. MCAS has recently submitted a PTI modification application to permit the incineration of contraband. As of August 31, 2021, a PTI modification application is pending review by the AQD permit section.

The cremation unit operating under PTI No. 533-94 was manufactured by JAR Incinerator Service, Incorporated, located at 18614 Fort Street, Riverview, Michigan. Per the permit to install application received October 27, 1994, the following is a list of the emission unit specifications:

Model: J.A.R. M.C.P. 350 – Multiple Chamber controlled-air unit.

Capacity: 300 lb./hr. per PTI application (350 lb./hr., per manufacturer specifications) Type 4 Waste.

Design:

- Three (3) burners in the primary combustion chamber. Each primary burner is rated at a heat input of 800,000 Btu/hr. but are set to operate at approximately 600,000 Btu/hr. for a total of approximately 2.4 MMBtu/hr.

- One (1) burner in the secondary combustion chamber. The secondary burner is rated at a heat input of 1.2 MMBtu/hr. but is set to operate at approximately 1.0 MMBtu/hr.

- 9" thick hearth floor with water-tight stainless-steel pan inside the regular steel housing.
- Front charging door.
- Rear clean-out door.
- Automatic combustion air modulation for both primary and secondary combustion chambers.
- Thermocouple temperature sensors in both primary and secondary combustion chambers.
- Charge Rate: Not to exceed 300 lbs. per hour per permit application.
- Recordkeeping: Start time of cremation and charge weight per permit application charge rate.

PTI No. 533-94 Special Conditions

15. Rule 331 - The particulate emission from the incinerator shall not exceed 0.20 pounds per 1,000 pounds of exhaust gases, corrected to 7% oxygen.

Compliance with this condition requires an emission test, which is not required by this permit and has not been requested by the AQD. Therefore, compliance with this condition has not been evaluated.

16. Visible emissions from the incinerator shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a).

Visible emission readings cannot be conducted via video conferencing. Therefore, I could not evaluate visible emissions.

17. Applicant shall not operate the incinerator unless the afterburner is installed and operating properly.

It is important to note that PTI No. 533-94 was written 27 years ago. Old permits, such as PTI No. 533-94, do not specify many conditions that would appear in a contemporary permit, such as a minimum secondary combustion chamber temperature, and the requirement to continuously record the secondary combustion chamber temperature. The secondary combustion chamber temperature of 1600 degrees F is identified in the permit application but is not specified in the permit to install. With older permits such as PTI No. 533-94, the AQD considers parameters identified in a permit application as enforceable conditions. Furthermore, a minimum secondary combustion chamber temperature of 1600 degrees F is an AQD pathological incinerator standard that has been applied for more than two decades, therefore if neither the application nor the permit specifies a temperature, compliance shall be based on the AQD standard.

Per the previous inspection I conducted on August 18, 2020, Chief Randazzo had ordered a temperature chart recorder, and installation, from Mechanical Services. Due to the COVID-19 pandemic, there has been a lengthy delay in receiving the equipment, which is currently pending

installation. As of this inspection, Mechanical Services has obtained the equipment, and installation is expected to occur within a few weeks.

NOTE: Even though the paper recording portion of the existing temperature chart recorder does not work, the existing device displays both the primary (incineration chamber) and secondary combustion chamber (control device) temperatures.

As an interim demonstration of compliance until the chart recorder is installed, Chief Randazzo agreed to have staff manually record the secondary combustion chamber temperature during each cremation. On August 30, 2021, I received a copy of cremation logs for July and August 2021 via email. The temperature records on the handwritten logs appear to indicate that the secondary combustion chamber temperature had not achieved nor maintained the required 1600 degrees F during any of the logged cremations. Chief Randazzo and I discussed the possibility that staff may have inadvertently recorded the primary combustion chamber temperature or that the temperature sensors are cross-wired thereby causing the primary combustion chamber to be displayed as the secondary combustion chamber temperature. To address the potential misrecording of temperature, Chief Randazzo modified the cremation log to include both the primary and secondary temperatures. Furthermore, Chief Randazzo will request Mechanical Services to verify that the new chart recorder will be recording the secondary combustion chamber temperature. As of this inspection, a compliance determination with regards to this special condition is pending.

18. The exhaust gases from the incinerator shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 18 inches at an exit point not less than 30 feet above ground level.

A visual observation during the inspection appears to indicate that the exhaust stack complies with the permit's specified dimensions.

19. The disposal of collected ash shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.

The cremains is collected but does not undergo further processing. I observed that the cremains was collected in an uncovered container adjacent to the cremation unit. I observed that the ground adjacent to the container did not appear to be impacted by the collected cremains. The permittee appears to comply with this condition.

20. Applicant shall not burn any waste in the incinerator other than the following:

Type 4 -- Animal remains, consisting of carcasses, organs, and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds, and similar sources.

The permittee only combusts Type 4 waste, which appears to comply with this permit condition. A PTI modification application to allow the incineration of contraband is pending review by the AOD permit section.

21. Applicant shall not operate the incinerator unless it is equipped with a manual timer switch, with operating instructions, to insure use of the afterburner whenever the incinerator is operated. If it is determined, by the District Supervisor, that such manual timer switch is not being utilized correctly, an automatic afterburner switch shall be required to be installed before a Permit to Operate may be issued.

The crematorium operation is controlled by a timer that controls the initial ignition of the secondary combustion chamber burner and then, after a preset time, ignites the primary combustion chamber burners. The automatic secondary combustion chamber afterburner timer appears to indicate compliance with this permit condition.

22. Proper operation and adequate maintenance of the incinerator to control emissions are required. A list of recommended operating and maintenance procedures is enclosed.

This pathological incinerator is located outside and therefore is exposed to the weather. It appears to be properly maintained.

23. Rules 1001, 1003, and 1004 - Verification of particulate emission rates from the incinerator 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.

The AOD has not requested verification of particulate emission rates.

CONCLUSION

Per this inspection, Macomb County Animal Control (MCAC) appears to comply with all permit conditions with the possible exception of maintaining a minimum secondary combustion chamber temperature of 1600 degrees. I will follow up with Chief Randazzo to confirm that the operator is not inadvertently recording the incorrect combustion chamber temperature, the temperature sensor display shows the correct corresponding combustion chamber temperature, the temperature chart recorder has been replaced, and the secondary combustion chamber temperature achieves a minimum of 1600 degrees F throughout each cremation.

NAME



DATE 9/8/2021

SUPERVISOR

