

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

P031254912

FACILITY: CREMATION OF SW MICHIGAN		SRN / ID: P0312
LOCATION: 1997 MEADOWBROOK RD, BENTON HARBOR		DISTRICT: Kalamazoo
CITY: BENTON HARBOR		COUNTY: BERRIEN
CONTACT: Jim Starks, Owner?		ACTIVITY DATE: 08/26/2020
STAFF: Matthew Deskins	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Announced Scheduled Inspection. It was announced due to the current Covid-19 Pandemic.		
RESOLVED COMPLAINTS:		

On August 26, 2020 AQD Staff (Matt Deskins) went to conduct an announced scheduled inspection of Cremation of SW Michigan (Facility) (SRN: P0312) located in Benton Harbor, Berrien County. The inspection had to be scheduled due to the current Covid-19 pandemic. According to district files, the Facility is a minor source with one active permit (PTI No. 8-12A) issued to them by the AQD for a Crematory to be used for human remains along with American Flags. The purpose of staff's inspection was to determine compliance with the permit conditions and any other potential state or federal air regulations that may apply. Staff had scheduled the inspection for 1:00 p.m. but ended up arriving at 12:20 p.m. after conducting another inspection in Benton Harbor. Staff did not take a lunch break.

There was a vehicle in the parking lot but when staff tried the entry door it was locked. Staff then knocked on the door but no one responded. Staff then went back to their vehicle and tried calling Jim Starks to see if he may be inside but he didn't answer. Jim is the contact person for the Facility and whom staff had scheduled the inspection with. Since staff did arrive early they figured they would just sit in their vehicle and wait until 1:00 p.m.

Jim arrived at the Facility at approximately 12:40 p.m. Staff introduced them self and stated that they knew they were early for the inspection. Jim said that was fine and unlocked the door to the building. Staff then proceeded with Jim inside and exchanged business cards. Staff asked about the other vehicle in the parking lot and thought that Jim may have been inside but couldn't hear him. Jim mentioned that vehicle belonged to Ted Wallace (Crematory Operator) and that he was probably back in the crematory room and wasn't aware staff had arrived. Jim then asked staff about the inspection process. Staff mentioned that it would entail getting an overview of facility operations and then going through the special conditions of their permit along with a review of any records required to be kept by it. The following is a summary of staff's conversation with Jim and/or Ted. Ted came out into the reception area a few minutes after we entered the building.

According to Jim, the Facility operates Monday through Friday with an occasional Saturday or Sunday. They cremate human remains along with burning American Flags. When cremating human remains, they typically can do 2 to 4 per day. Before cremation can take place, Jim said that a doctor has to sign off, then a medical examiner, along with the person's relatives depending on the relation to the deceased. Staff then asked how long it typically takes to cremate a body. Jim said that it varies and depends on the size of the person and their body composition. Also, the 1st body of the day usually will take a little longer since the refractory will have cooled from the previous day and/or over the weekend. Ted then said that it typically takes 2.5 hours on average to cremate the average sized person followed by a cool down period. Staff then asked about the burning of American Flags and Jim said that they will do those once every quarter and/or when cremating the body of a veteran. Staff then proceeded with Jim out into the room and adjacent room where the crematory is located. The bodies and/or flags are loaded into the crematory in one room where the digital control panel is located and the crematory itself is located immediately adjacent in another room. Staff then went outside the back of the building to view the crematory stack. Once staff had observed the crematory equipment, they proceeded back to the reception area with Jim. The following are the Special Conditions of PTI No. 8-12A and staff's comments regarding them.

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUCREMATORY1	Matthews Cremation Division Super Power Pak (IE43-SPP) Fuel Type: Natural Gas Maximum Charge: 750 Pounds Burn Rate: 200 Pounds/Hour Charge Type: Human Remains	April 2, 2012	N/A
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to: EUCREMATORY1

DESCRIPTION: Matthews Cremation Division
Super Power Pak (IE43-SPP)
Fuel Type: Natural Gas
Maximum Charge: 750 Pounds
Burn Rate: 200 Pounds/Hour
Charge Type: Human Remains

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT: Secondary combustion chamber with afterburner.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.20 lb /1,000 lbs of gas ^a	Test Protocol*	EUCREMATORY1	GC 13	R 336.1331
^a Calculated to 50% excess air. * Test Protocol shall specify averaging time.					

AQD Comment: Appears to be in Compliance. The AQD has not requested in testing be done on the crematory unit to date.

II. MATERIAL LIMITS

1. The permittee shall not burn any waste in EUCREMATORY1 other than the following:

Pathological wastes—As defined in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.2265, 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 human pathological waste and associated materials.

American Flags—As defined in the federal United States Flag Code, 4 U.S.C. Section 3, “flag, standard, colors, or ensign” includes any flag, standard, colors, ensign, or any picture or representation of either, or of any part or parts of either, made of any substance or represented on any substance, of any size evidently purporting to be either of said flag, standard, colors, or ensign of the United States of America or a picture or a representation of either, upon which shall be shown the colors, the stars and the stripes, in any number of either thereof, or of any part or parts of either, by which the average person seeing the same without deliberation may believe the same to represent the flag, colors, standard, or ensign of the United States of America. This permit applies to American Flags that are worn and/or damaged and need proper disposal.

(40 CFR 60.2020(a), 40 CFR 60.2265)

AQD Comment: Appears to be in Compliance. According to records reviewed by staff, the Facility is only cremating human remains and/or burning American Flags.

2. The permittee shall not charge more than 750 pounds per charge in EUCREMATORY1, where charge is the total weight of the material placed in the incinerator to be combusted. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. According to records reviewed by staff, they have been under this limit. For each body that is cremated, the Facility maintains an Operator’s Checklist which they will record the weight at the top of.

3. The permittee shall not burn any fuel in EUCREMATORY1 other than natural gas. (R 336.1224, R 336.1225, R 336.1702)

AQD Comment: Appears to be in Compliance. The Facility only burns natural gas in the crematory.

4. The permittee shall burn a minimum of 90 percent pathological waste, as defined in SC II.1, by weight (excluding the weight of auxiliary fuel and combustion air) in EUCREMATORY1 on a calendar quarterly basis. (40 CFR 60.2020(a))

AQD Comment: Appears to be in Compliance with the above requirement.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not combust waste in EUCREMATORY1 unless a minimum temperature of 1600°F and a minimum retention time of 1.0 seconds in the secondary combustion chamber are maintained. (R 336.1301, R 336.1331, R 336.1910)

AQD Comment: Appears to be in Compliance. According to records (circular disk chart recorders) reviewed by staff, the temperature appears to range from 1600 to 1750 degrees F.

2. The incinerator shall be installed, maintained, and operated in a satisfactory manner to control emissions from EUCREMATORY1. A list of recommended operating and maintenance procedures is specified in Appendix A. (R 336.1301, R 336.1331, R 336.1910)

AQD Comment: Appears to be in Compliance. According to Jim, replacing thermocouples and rebricking the refractory chamber every few years has been about the only maintenance required. They keep these records in a maintenance file.

IV. DESIGN/EQUIPMENT PARAMETERS

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 EUCREMATORY1 on a continuous basis. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. The crematory system uses a circular disk chart recorder. The Facility also records the “body number” on the circular disk chart recorder that corresponds with the same number on the Operators Checklist for tracking purposes.

- The permittee shall maintain a scale at the facility for the purpose of verifying the charge weight as required by SC II.2. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. The Facility uses what I referred to as "Scissor Lifts" for loading bodies and/or American Flags into the crematory. Each of the lifts is equipped with a digital scale for weighing purposes.

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

N/A

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- The permittee shall complete all required calculations 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. (40 CFR 60.2020(a)(2))

AQD Comment: Appears to be in Compliance. No calculations are required by the permit.

- The permittee shall monitor and record the temperature in the secondary combustion chamber of EUCREMATORY1 on a continuous basis. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. The crematory system uses a circular disk chart recorder.

- The permittee shall keep, in a satisfactory manner, daily records of the time (duration of burn), description and weight of charge combusted in EUCREMATORY1, as required by SC II.2. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. The Facility maintains an Operator's Checklist which has all of this information on it.

- The permittee shall keep, in a satisfactory manner, records on a calendar quarter basis of the weight of pathological waste burned, and the weight of all other fuels and wastes burned in EUCREMATORY1, as required by 40 CFR 60.2020(a)(2). The permittee shall keep all records on file and make them available to the Department upon request. (40 CFR 60.2020(a)(2))

AQD Comment: Appears to be in Compliance.

- The permittee shall keep, in a satisfactory manner, secondary combustion chamber temperature records for EUCREMATORY1, as required by SC VI.2. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1301, R 336.1331)

AQD Comment: Appears to be in Compliance. The crematory system uses a circular disk chart recorder and maintains them on site.

- The permittee shall keep, in a satisfactory manner, a record of all service, maintenance and equipment inspections for EUCREMATORY1. 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. (R 336.1301, R 336.1331, R 336.1910)

AQD Comment: Appears to be in Compliance. They keep these records in a maintenance file.

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCREMATORY1	20	21	40 CFR 52.21 (c) & (d)

AQD Comment: Appears to be in Compliance. The diameter and height of the stack appear to be correct.

IX. OTHER REQUIREMENTS

N/A

APPENDIX A

Incinerator Operation and Maintenance Guidelines

1. Designate a trained operator for the unit and make that person responsible for compliance with the air pollution control requirements.
2. Clean grates before each day's operation (more often if necessary), and dispose of the ashes properly.
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.
4. Do not overload the incinerator. Stay within the given loading rates and follow the manufacturer's instructions.
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.
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).
7. Keep the combustion air adjusted according to the manufacturer's instructions.
8. Observe the stack frequently and adjust the operation as necessary to eliminate smoke and fly ash.
9. Post a copy of the manufacturer's manual and this Guideline near the incinerator.
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.
11. Follow manufacturer's operation and maintenance guidelines.

INSPECTION CONCLUSION: The facility appears to be in Compliance with the Special Conditions of PTI No. 8-12A at the present time. Staff thanked Jim for his time and departed the facility at approximately 1:20 p.m.

INSPECTION FOLLOW-UP: Jim contacted staff the following day with regards to the 750 pound charge limit in the permit. With humans getting larger, he wanted to make sure they could do larger bodies without concern of being in violation. He said that the crematory unit is rated for up to 1,000 pounds. Staff told him if they wish to increase the limit that they would have to modify their permit. Staff gave

Jim the contact information for the AQD Thermal Process Unit Permit Supervisor (Mark Mitchell) so he can contact them to discuss what may need to be submitted.

NAME Matt Derken

DATE 9-2-20

SUPERVISOR RL 9/9/20