

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

N682756691

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|--|-------------------------------|---------------------------|
| FACILITY: Mission Hills Memorial Gardens Inc | | SRN / ID: N6827 |
| LOCATION: 3001 M 51 N, NILES | | DISTRICT: Kalamazoo |
| CITY: NILES | | COUNTY: CASS |
| CONTACT: Bert Edquist , Owner | | ACTIVITY DATE: 01/13/2021 |
| STAFF: Rachel Benaway | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR |
| SUBJECT: On-site inspection to verify compliance with all state and federal air use regulations. | | |
| RESOLVED COMPLAINTS: | | |

Due to Covid-19 health and safety precautions, all AQD inspections are now announced and scheduled prior to entry to a facility. The purpose of this scheduled inspection on 1/13/2021 by AQD staff, Rachel Benaway, was to verify that Mission Hills Memorial Gardens, Inc, (N6827) is in compliance with air use Permit to Install (PTI) #159-00 and all state and federal air use regulations. Mission Hills, a funeral home and crematory located at 3001 M 51 North in Niles, MI, is a minor source of particulate matter (PM). Bert Edquist is the owner and responsible official of Mission Hills and Ken Thompson is the facility's other incinerator operator.

There were no visible emissions observed outside of the facility. The facility has no parts washers or emergency generators and reports that no major modifications, removals, or installations of equipment have occurred since the last inspection on 8/22/2018.

PTI #159-00 is for a Power-Pak II Crematory Incinerator for remains.

Incinerator Special Conditions

The unit was installed in 2001 and is housed in a small building behind the funeral home.

Pollution Control: The stack is equipped with a pollution alarm/smoke alarm transmitter that utilizes a beam of light to detect particulate matter escaping in the exhaust. The detector acts as a fail-safe by shutting down the machine when PM is detected and restarting when the stack is clear.

PTI #159-00

| SC | Condition | COMPLIANT? | Y | N |
|----|---|------------|----|---|
| 1 | PM emissions from incinerator shall not exceed 0.20 lb per 1,000 lb of exhaust gases, corrected to 50% excess air | | ** | |
| 2 | Shall not burn any waste in incinerator other than pathological waste – consisting of only human or animal remains, anatomical parts, and/or tissue, bags/containers used to collect and transport waste material, and animal bedding | | X | |
| 3 | | | X | |

| | | | |
|---|--|---|--|
| | Shall not operate incinerator unless minimum temp of 1400 degF and min retention time of 1 sec in the secondary combustion chamber is maintained | | |
| 4 | Proper operation and adequate maintenance of incinerator to control emissions is required. | X | |
| 5 | Exhaust gases shall be discharged vertically from stack: 20 in diameter, 18ft above ground | X | |

****SC 1.** There are no conditions in this permit that require the calculation or reporting of PM in the exhaust gases. There are also no conditions that allow for testing of the exhaust gases upon request from the Department. There is no way to verify compliance with this condition via the records required by this permit. The permit does not require the use of a smoke alarm transmitter, but the unit is equipped with one as a qualitative fail-safe for operation. However, the transmitter does not track or record the PM in the exhaust gases for quantitative purposes.

SC 2. Only human remains are incinerated.

SC 3. For compliance demonstration purposes, a temperature gauge on the secondary chamber must be installed and operating properly. The unit typically takes about 15 minutes to preheat to 1400 degF, but the typical operating temperature is 1600 degF. The incinerator had been running for approximately 2 hours at the time of inspection and the temperature wheel on the side of the machine read 1630 degF. Typical run time is 2.5 hours.

SC 4: INCINERATOR OPERATING GUIDELINES

Bert Edquist and Ken Thompson are the designated, trained operators for the unit. The unit is vacuumed between each cremation. Remains are collected and put into another unit for processing/boxing, including the use of a magnet to remove metal.

Proper incinerator guidelines suggest minimizing the number of times the charging door is opened to reduce the introduction of cold air that quenches fire and causes smoke. Routine operating procedures require the door to be opened for approximately 30 seconds after 75-90 minutes of operation to reposition the body. Repositioning allows the body to be processed faster much like adjusting the logs of a campfire for a more complete burn. The door is opened again after around 2 hours of processing time and then once every 10 minutes or so to monitor burn completion. While opening the door lowers the operating temperature of the incinerator, there is less chance of smoke at the latter portion of a burn because most of the organic material has been eliminated leaving only hard, dense bone matter that emits considerably less smoke when burned.

Proper incinerator guidelines suggest that the facility should burn only the type of waste the unit has been approved to burn. Mr. Edquist informed staff that the bodies of COVID-19 patients are transported to the facility in plastic bags and are processed with the bags intact. These plastic bags do create smoke. According to records, the facility has processed 10 COVID-19 patients

since December 1st, 2020. With a total of 37 bodies processed in that time, this means approximately 1 out of every 4 bodies processed at the facility are COVID-19 patients.

The facility uses an outside maintenance service for repairs on an as-needed basis while routine maintenance checks are completed by Mr. Edquist and Mr. Thompson.

Monitoring/Recordkeeping:

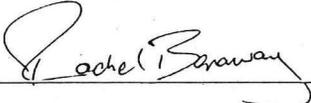
PTI # 159-00

| SC | Condition | COMPLIANT? | |
|----|--|------------|---|
| | | Y | N |
| 3 | Records of the temp in secondary combustion chamber during operation shall be kept on file for at least 2 years and made available | X | |
| 6 | Keep records on calendar quarter basis of the periods of time when pathological waste is burned in incinerator. Keep records on file for 2 years and make available. | X | |

Two years of records were submitted, as requested. The facility keeps circular charts that demonstrate the temperature readout of the incinerator over time. The printouts show the temperature cycles of the machine (SC.5). Each time the unit is used, the operator records the date, the time the unit was started, the time the unit began processing material, and the time the unit was turned off. This demonstrates preheating and retention times (SC.6). Records are included with this report.

The facility appears to be in compliance with all permit requirements and conditions at this time.

For posterity-sake, staff would like to record the parting words of the crematory owner as the inspection was completed. According to Mr. Edquist, "Every day is a good day above ground."

NAME 

DATE 1/18/2021

SUPERVISOR RIL 2/10/21

