

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

N833962290

FACILITY: Great Lakes Cremation Service, Inc.		SRN / ID: N8339
LOCATION: 29547 Costello Dr, NEW HUDSON		DISTRICT: Warren
CITY: NEW HUDSON		COUNTY: OAKLAND
CONTACT: Gil Pietrandrea , Facility Manager		ACTIVITY DATE: 03/18/2022
STAFF: Robert Elmouchi	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Ongoing complaint investigations and unannounced on-site inspection.		
RESOLVED COMPLAINTS: C-22-00496		

On January 19, and February 16, 2022, I conducted ongoing complaint investigations, and on March 14 and March 18, 2022, I conducted unannounced on-site inspections of Great Lakes Cremation Service located at 29547 Costello Drive, New Hudson, Michigan. On March 14, 2022, Adam Bognar, AQD Environmental Engineer, accompanied me during the on-site inspection of Great Lakes Cremation Service.

The purpose of the complaint investigations and inspections was to determine Great Lakes Cremation's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; the conditions of Permit to Install (PTI) numbers 232-09B and 61-15; and in response to multiple complaints of visible emissions (black smoke), foul odor, and the emission of flames from one or more crematory exhaust stacks.

CREMATION UNIT CONTROL DEVICE PERFORMANCE

The purpose of a crematory's secondary combustion chamber is to provide sufficient temperature and retention time to allow complete combustion of exhaust gases and particulates, which results in the control of visible emissions and foul odors.

Visible emissions lasting more than one minute during the first 15-minutes of cremation, or recurring visible emissions during a cremation, are not satisfactory operation of the air cleaning device. I consider one minute of visible emissions as the threshold of improper operation of the air cleaning device. Zero visible emissions during the remainder of any cremation are expected, except for a maximum of ten seconds of visible emissions less than 50% opacity when the operator repositions the cremains under the primary burner flame approximately 90 minutes into the cremation.

An exception to satisfactory operation may occur when a body is wrapped in two, or more, disaster bags. Disaster bags create significant smoke at the beginning of the cremation. Visible emissions from the incineration of disaster bags, which last more than three minutes at the start of a cremation appear to indicate unsatisfactory operation of the air cleaning device.

The operation of a cremation unit that results in the public being impacted by a foul odor and inhaling the particulates from incompletely combusted burning bodies or containers is not satisfactory operation of a cremation unit's air cleaning device.

It is important to note that none of Great Lakes Cremation Service's five exhaust stacks are visible from ground level. Therefore, a valid Method 9 visible emission observation cannot be performed. Nevertheless, per more than a decade of experience observing crematory emissions from multiple cremation facilities, the intensity, and frequency of visible emissions, flames, and foul odor can be used to determine compliance with PTI special conditions and R 336.1910, which require the air-cleaning device to be installed, maintained, and operated in a satisfactory manner. Under any circumstance, flames exiting a cremation unit exhaust stack is not satisfactory operation.

LYON TOWNSHIP FIRE DEPARTMENT COMPLAINT HISTORY

On February 10, 2021, the Lyon Township Fire Department responded to a public complaint. Incident report number 210000124 states in part, "Owner stated that the business was a crematorium and black smoke was a normal occurrence."

On August 25, 2021, the Lyon Township Fire Department responded to a public complaint. Incident report number 210001038 states in part, "Smoke coming from stack. FD arrived and found black smoke from stack. Owner states it is part of the cremation process." The duration of smoke from receiving the complaint to the arrival of the fire department indicates the control device was not operated in a satisfactory manner per each cremation unit's permit condition III.2, and R 336.1901.

The Lyon Township also provided a video of flames and smoke being emitted from a Great Lakes Cremation Service exhaust stack. A violation notice was issued, dated September 23, 2021.

ONGOING COMPLAINT INVESTIGATIONS

On January 19, 2022, I arrived at the complainant's location at 1:25 p.m. The temperature was approximately 33 degrees F, and the wind was approximately 20 miles per hour from the north. The high wind speed caused the exhaust plume to travel horizontally. I conducted observations from 1:25 p.m. to 3:38 p.m. During the observations, the local wind direction changed from north to south. It is important to note that the wind direction at Great Lakes Cremation is influenced by the woods adjacent to the property. I routinely observe higher wind speeds and different wind directions one mile to the north near the local Walmart. Method 9 visible emission observations cannot be conducted from ground level because the top of the exhaust stack cannot be seen from ground level.

Observations:

1:30 p.m., white plume lasting approximately one minute.

1:38 p.m., puff of black smoke lasting less than ten seconds.

2:10 p.m., white plume lasting approximately one minute.

2:31 p.m., white plume lasting less than one minute.

2:51 p.m., black plume lasting less than one minute.

2:58 p.m., black plume lasting less than one minute.

3:06 p.m., black plume lasting less than one minute.

3:09 p.m., white plume lasting less than one minute.

3:38 p.m., black plume lasting less than one minute.

I ceased observations at 3:40 p.m.

On February 16, 2022, I arrived at the complainant's location at 7:05 a.m. The temperature was 37 degrees F, and the sky was overcast. Per a flag near the local Walmart, the wind was from the south-southwest about seven to ten miles per hour. Because of the woods adjacent to Great Lakes Cremation and the complainant's location, the wind speed was reduced and varied from calm to about five miles per hour.

At 8:05 a.m., I was approached by an employee at the complainant's location and later joined by the complainant. The employee described the emission of flames from one of Great Lakes Cremation's exhaust stacks on February 15, 2022. The employee sent photos to me via email, which appear to support the employee's statement.

At the complainant's location, from 7:05 a.m. to 8:35 a.m. I did not detect visible emissions or flames through or above the intervening trees. I then drove to Great Lakes Cremation.

At 8:40 a.m. I arrived at the parking lot adjacent to Great Lakes Cremation. At 8:47 a.m. the wind speed had increased to about 10 mph from the south with gusts. Initially, I only observed heat exhaust distortion of the trees in the background. At 8:56 a.m. I observed white smoke that lasted less than 10 seconds. At 8:57 a.m. I

observed black smoke that continued to 8:59 a.m. At 9:05 a.m. I observed black smoke that continued to 9:07 a.m. I ended my observations at 9:15 a.m.

On February 16, 2022, I spoke with Mr. Gil Pietrandrea via cell phone. At the start of the conversation, Mr. Pietrandrea stated that all of the cremation units had been operating properly. I had informed Mr. Pietrandrea that I had received photos demonstrating flames being emitted from Great Lakes Cremation Service on February 15, 2022, and a verbal report of flames on February 16, 2022. Mr. Pietrandrea added that flames were emitted from EUCREMATORY2, but that it only occurred during the first cremation of the day. I informed Mr. Pietrandrea that flames exiting a cremation unit exhaust stack is not satisfactory operation, which will be cited in a forthcoming violation notice.

UNANNOUNCED ON-SITE INSPECTION

On Monday, March 14, 2022, Adam Bognar and I conducted an unannounced scheduled inspection of Great Lakes Cremation Service. We arrived on-site at approximately 6:15 a.m. and conducted emission observations. At 7:24 a.m. we observed glowing embers being emitted, which lasted approximately 20 seconds. Later that morning, Mr. Pietrandrea identified the source of the emissions as EUCREMATORY4. Mr. Pietrandrea stated that he was aware of the glowing embers, which he observed on the closed-circuit television system monitor, but he did not know why the cremation unit was emitting the glowing embers.

At approximately 9:35 a.m. Adam Bognar and I entered the Great Lakes Cremation Service and met with Mr. Pietrandrea, Facility Manager, and Ms. Danielle Hall, Supervisor. I introduced Adam Bognar to Mr. Pietrandrea and Ms. Hall and explained that Adam will be the new inspector assigned to Great Lakes Cremation. I will continue to be involved in compliance and enforcement during the transition.

Both Mr. Pietrandrea and Ms. Hall were forthcoming with information. They stated that the facility is pending a thorough cleaning, in which dust will be blown off the tops of each machine and the exterior surfaces of each machine will be cleaned. I've attached a photo of the current state of EUCREMATORY4 and EUCREMATORY5 as reference.

We reviewed and collected permit-required records. During the review, I pointed out that temperature recorder charts did not clearly identify the date and time of each cremation. In response to my observations, Ms. Hall hand-wrote additional information on some charts to clarify the recordkeeping. It should be noted that Great Lakes Cremation also maintains a Cremation Log for each cremation unit, which is used to record the weight of each charge, start time, end time, and duration

of each cremation. I collected records with the following recordkeeping noncompliances:

EUCREMATORY1:

March 8, 2022, temperature chart records indicate the permittee failed to maintain a minimum of 1600 degrees F in the secondary combustion chamber.

March 16, 2022, Cremation Log, Cremation Number 39787, end time (Time out) and duration are illegible due to overlapping text.

EUCREMATORY2:

March 11, 2022, temperature chart records indicate the permittee failed to maintain a minimum of 1600 degrees F in the secondary combustion chamber and overlapping temperature records are in a format that is not acceptable to the AQD District Supervisor.

March 14, 2022, temperature chart paper has overlapping temperature records.

EUCREMATORY3 (pet):

January 4, 8, and 28, 2021, February 12 and 22, 2021, March 10, 2021, April 14, 2021, May 18, 2021, July 11, 2021, and March 11, 2022, the permittee failed to replace the pen on the chart recorder which resulted in no temperatures recorded on these dates.

EUCREMATORY4:

March 8, 2022, temperature chart records indicate the permittee failed to maintain a minimum of 1600 degrees F in the secondary combustion chamber.

EUCREMATORY5:

March 7, 2022, temperature chart records indicate the permittee failed to maintain a minimum of 1600 degrees F in the secondary combustion chamber, and overlapping temperature records are in a format that is not acceptable to the AQD District Supervisor.

The aforementioned process/operational restrictions and monitoring/recordkeeping noncompliances will be cited in a violation notice.

Mr. Pietrandrea, Ms. Hall, Mr. Bognar, and I began discussions of the pending Malfunction Abatement Plan (MAP) update and the requested Compliance Program. The purpose of this discussion was to explain the purpose of the MAP and Compliance Program to Mr. Pietrandrea and Ms. Hall. Ms. Hall indicated she would be writing the MAP update and Compliance Program. We paused the inspection for a lunch break. When Mr. Bognar and I returned we were informed that Ms. Hall had to leave for personal reasons. I was provided the requested copies of Cremation Logs and temperature charts.

Before departing Great Lakes Cremation Service, I informed Mr. Pietrandrea that the noncompliances shall be cited in a violation notice and due to the ongoing history of violations escalated enforcement will be pursued by the Air Quality Division. Mr. Pietrandrea acknowledged my statement.

On Friday, March 18, 2022, I returned to complete our discussion and explanation of the pending Malfunction Abatement Plan (MAP) update and the requested Compliance Program. On Tuesday, March 22, 2022, I sent an email to Mr. Pietrandrea and Ms. Hall that contained a MAP template. Within this email, I established a deadline of Wednesday, April 6, 2022, for the updated MAP and compliance program. On Wednesday, March 23, 2022, Mr. Pietrandrea sent me an email correcting Ms. Hall's email address that was provided on Friday, March 18, 2022. I followed up with a cell phone call to Mr. Pietrandrea, in which he informed me that he had forwarded my email to Ms. Hall. On Thursday, March 24, 2022, Mr. Pietrandrea sent me another email in which I was finally provided the correct email address for Ms. Hall, which is DJH8731@Gmail.com. I have entered this email address in the MACES database.

On Friday, March 18, 2022, I requested copies of service records. I was provided copies of two service records dated 7/29/2020 and 11/9/2020. I was told that recent records were not on site. I requested copies of recent service records to be sent to me via email, but as of March 31, 2022, these records have not been received. This is in violation of the PTI 232-09B, and PTI 61-15 monitoring and recordkeeping requirements for each EUCREMATORY3 VI.4, EUCREMATORY4 VI.4, and EUCREMATORY5 VI.6. which requires the permittee to keep, in a satisfactory manner, a record of all service, maintenance and equipment inspections, and to keep all records on file and make them available to the Department upon request. These noncompliances shall be cited in a violation notice.

CONCLUSION

The noncompliances noted above shall be cited in a violation notice. Furthermore, due to the history of complaints, which date back to February 17, 2015, in the MACES database, the AQD will prepare a referral package to pursue escalated enforcement.



Image 1(IMG_0293.JPG) : Cremation units EUCREMATORY5 and EUCREMATORY3 (left to right). This photo was taken to document the soot deposits on the exterior of each machine. All cremation units had similar soot deposits.



Image 2(20220215_070705 CROP) : Image 20220215_070705 CROPPED showing flame from Great Lakes Cremation Service exhaust stack.

NAME Robert Elmarchi

DATE 4/5/2022

SUPERVISOR Joyce