#### **Malfunction Abatement Plan**

#### Per R 336. 1911 of the

#### **Michigan Air Pollution Control Rules**

SOUTHERN MICHIGAN CREMATION SERVICES R.O., INC.

4839 Fernlee Ave

Royal Oak, MI. 48073

SRN: P0932

Permit No(s) 113-18A

Date: November 12, 2024

The purpose of this Malfunction Abatement Plan (MAP) is to establish a compliance program that prevents, detects, and corrects malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitation.

Emission Unit IDs: Emission Unit ID Emission Unit Description (Including Process Equipment & amp; Control Device(s)) EU-CREMATORY3 Model: Matthews Power Pak II (IE43-PPII) Charge Type: HUMAN REMAINS Fuel Type: Natural Gas Maximum Charge: 750 lbs Burn Rate: 150 lbs/hr Manufactured: March 1996

EU-CREMATORY4 Model: Matthews Power Pak II (IE43-PPII) Charge Type: HUMAN REMAINS Fuel Type: Natural Gas Maximum Charge: 750 lbs Burn Rate: 150 lbs/hr Manufactured: March 1996

EU-CREMATORY5 Model: Keller Manufacturing KMH 1125-400 Charge Type: HUMAN REMAINS Fuel Type: Natural Gas Maximum Charge: 1,200 lbs Burn Rate: 200 lbs/hr

EU-CREMATORY6 Model: Keller Manufacturing KMH 1125-400 Charge Type: HUMAN REMAINS Fuel Type: Natural Gas Maximum Charge: 1,200 lbs Burn Rate: 200 lbs/hr

Supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices. : James Santeiu: Owner: 248-435-5566 Matt Dziadzio: General Manager: 248-435-5566 Tom Perini: Operator: 248-435-5566

Description of the items or conditions that shall be inspected and the frequency of inspections or repairs.

Each Cremation:

- Smoke emissions from cremation unit exhaust stack.
- Smoke entering the building from cremation unit.
- Flames are being emitted from cremation unit exhaust stack

- Opacity alarms
- Thermocouple working status
- Throat air setting

#### Monthly:

• Opacity Alarm Sensor and Alarm

#### Quarterly:

• Fire-eye Flame Sensors (check that flame sensor is operating, and no fault is

#### indicated)

• Calibrate opacity alarms.

#### Biannually and Annually:

• Air Nozzle. Inspect each Air Nozzle 1-year after replacement then every 6 months thereafter. Each inspection shall include a visual inspection and physical evaluation of the structural integrity of each nozzle to determine if it is worn or damaged.

#### Annually:

- Remove accumulated debris from the back of chamber.
- Full visual inspection of the secondary combustion chamber interior by a qualified service and repair technician

Identification of the major replacement parts that shall be maintained in inventory for quick replacement.

- Belimo actuators
- Thermocouples
- Flame Sensor
- Air Sensor
- Air Nozzle, straight.
- Air Nozzle, 90 degrees.

- Opacity Alarm.
- Opacity alarm replacement lamp.

Identification of the source and air-cleaning device operating variables that shall be monitored to detect malfunction or failure. The normal operation range of these variables, and description of the method of monitoring or surveillance procedures.

The Secondary Combustion Chamber (SCC) is the air cleaning device that is used to control particulate emissions, visible emissions (smoke), and odor from a pathological waste incinerator. The following operation variables that affect SCC performance shall be monitored and recorded to detect, correct, and predict a malfunction or failure. The The permittee shall record the operating variables below, in a format acceptable to the Air Quality Division District Supervisor.

• TEMPERATURE: The SCC temperature of each cremation unit is displayed on a control panel on a circular paper temperature chart.

The minimum permitted operating temperature of each cremation unit is 1600 degrees Fahrenheit. The normal SCC operating range is from 1600-1750 degrees Fahrenheit. The Cremation unit control panel display and the temperature chart recorder shall be used to monitor the secondary combustion chamber temperature.

If the SCC temperature rises above 1750 degrees, the retort will automatically reduce Primary Combustion Chamber (PCC) burner to low flame.

Above 1900 degrees the cremation unit retort will automatically turn off the PCC burner.

• OPACITY ALARM: The opacity alarm notifies the operator when there is 10% smoke in the stack. Each cremation unit is equipped with an opacity alarm. During normal operation, the Opacity alarm should not be triggered. If the opacity alarm is triggered, then the cremation operators must record each opacity alarm event.

• SMOKE/OPACITY: Smoke lasting longer than 60 seconds indicates a malfunction of the SCC control device. Opacity observations shall be conducted either by going outside directly observe emissions or through properly maintained closed circuit television systems (CCTV). Smoke shall be observed by the cremation unit operator when the opacity alarm has been triggered, and frequently throughout each cremation, with emphasis in the first 30 minutes of each cremation. The cremation unit operator shall record the emission unit name, start time, and end time of each smoke emission lasting 60 or more seconds.

• FLAMES: Flames of any size or duration indicate a control device malfunction. The operator shall look for flames being emitted from the cremation unit stack throughout each cremation, with emphasis in the first 30 minutes of each cremation. Flame observations shall be conducted either by going outside to directly observe flames or through a properly maintained CCTV system. The cremation operator shall record the emissions unit's name, start time and end time of each flame emission regardless of size or duration.

• THERMOCOUPLES: Each cremation unit is equipped with a thermocouple that measures the temperature of the SCC. Each Cremation unit has a system to notify the operator when a thermocouple fails. Each cremation unit automatically turns offs all burners when the thermocouple fault occurs. The cremation unit operator shall record the emission unit name, date, supplier and manufacturer of each thermocouple failure to collect data for a preventative replacement schedule based on the history of thermocouple failure.

• THROAT AIR: Throat air provides excess oxygen for complete combustion. At the start of each cremation, and when smoke is emitted by the cremation unit, the cremation unit operator shall verify that the throat air is set to the "on" position. The cremation unit operator shall record each smoke event that was corrected by adjusting the throat air and writing a detailed description of corrective action.

• FLAME SENSORS: Each flame sensor shall be checked quarterly to monitor device stability. The permittee shall record the emission unit name and date of each flame sensor check, and each flame sensor fault.

• AIR NOZZLE: A normal functioning air nozzle will be solid and without perforations. The permittee shall inspect and evaluate the structural integrity of each cremation unit nozzle to determine if it is worn or damaged. The permittee shall record the emission unit name, date and condition of the air nozzle during each inspection.

• ACTUATORS (Belimos): Actuators control air and fuel flows. Biannually the permittee shall verify the proper operations of each actuator. The permittee shall record the emission unit name, the inspection date, actuator location, actuator function (air or fuel), and operation status. The permittee shall keep a record of manufacturers' failure analysis reports.

Description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with applicable emission limits.

o In the event of:

An opacity alarm lasts more than 60 seconds. The cremation unit operator will look at the throat air setting and hearth air setting and adjust the

cremation unit controls as needed to stop the malfunction.

o The SCC operates at less than 1600 degrees F at any time during the cremation, the supervisory personnel shall raise the SCC temperature set point to compensate.

o The SCC at more than 1900 degrees F, the cremation unit operator shall confirm the primary combustion chamber burner has automatically turned off, check the throat air setting, and adjust as needed to reduce the temperature.

o Flames, of any size and duration, are emitted from an exhaust stack. The cremation unit operator will check the throat air setting and hearth air setting and adjusting the cremation unit controls as needed to stop the malfunction.

o Thermocouple failure, the supervisory personnel shall immediately replace the thermocouple.

• For each malfunction, the cremation unit operator shall record the following and report it to the supervisory personnel:

o Emission unit name

o Date

o Description of malfunction

o Results of corrective action

o Start time malfunction

o End time malfunction

o Charge Weight

o SCC Temperature

o PCC Temperature, if the cremation unit has thermocouple.

• Contact the cremation unit service company for assistance with correcting the malfunctions and prevent a recurrence. The permittee

shall record the adjustments made by the cremation unit manufacture and the effect of the adjustments.

• If the corrective action does not resolve the problem, the cremation unit will not be operated until an inspection is performed by a qualified service and repair technician.

• Operation Instructions shall be posted for each cremation unit in a easy seen location.

• A staff meeting will be held every two months to discuss equipment operations and environmental compliance.

• Accurate clocks shall be used to record the start and end times of cremations, malfunctions, corrective actions, and other events.

• Record and reports shall be written in a manner acceptable to the AQD District Supervisor and be made available to the AQD upon request. The most recent 24-months of records shall be kept by Southern Michigan Service RO. All paper records and charts will be kept for 5 years and available upon request.

# Appendix MAP-A

Smoke, Fallout, and Odor Guidelines

**Appendix MAP-A** provides guidelines for monitoring crematory emissions to detect a malfunction and/or violation.

NOTE: **Appendix MAP-B** below reviews the air pollution control rules that apply to cremation and explains how the AQD determines compliance.

### **AIR-CLEANING DEVICE – EMISSIONS CONTROL**

Each cremation unit is equipped with an air-cleaning device, which is called a Secondary Combustion Chamber (SCC).



Image 1. Cross-section view of the Primary and Secondary combustion chambers.

The satisfactory operation of the air-cleaning device to control smoke, fallout, and foul odors, depends on the following variables:

- Cremation Unit Control Panel Settings
- Primary Combustion Chamber Temperature
- Secondary Combustion Chamber Temperature
- Charge Weight
- Charge Characteristics
- Burn Rate
- Excess Oxygen, heart air, draft air, (other air?)
- Exhaust Retention Time in the Secondary Combustion Chamber
- Equipment Maintenance
- Equipment Malfunctions
- Operator Error

### **Smoke Guidelines**

The following images are examples of smoke (also known as *visible emissions* or *opacity*) with descriptions of the intensity (opacity), duration, and frequency that shall be monitored to detect a malfunction, failure or violation.

#### Image 1. Satisfactory Operation Example

No Smoke – Completely transparent emissions.

The secondary combustion chamber temperature controls visible emissions by reducing the smoke opacity to zero percent throughout each cremation.



#### Image 2. Satisfactory Operation Example

Approximately 30% opaque smoke, less than 60 Seconds.

A transparent smoke plume of approximately 30% opacity at the start of a cremation that lasts less than 60 seconds, whose length is less than one-third of the stack height above ground and does not extend into an area accessible to the public may be in compliance.



### Image 3. Satisfactory Operation Example

Approximately 50% opaque smoke, less than 60 Seconds.

A transparent smoke plume of approximately 50% at the start of a cremation that lasts less than 60 seconds, whose length is less than one-third of the stack height above ground, and does not extend into an area accessible to the public may be in compliance.



#### Satisfactory Operation General Example:

**If** smoke from a 21-foot-tall stack (above ground) is transparent, does not exceed 7 feet in length, does not last more than 60 seconds, does not repeat during a cremation, and does not extend over or onto areas of public access, which include parking lots, public roads, driveways, sidewalks, or adjacent properties, then the smoke may be in compliance.

**NOTE:** Satisfactory operation may become unsatisfactory operation if smoke lasts longer than 60 seconds or if it occurs multiple times during a cremation. Appendix MAP-B below reviews the air pollution control rules that apply to cremation and explains how the AQD determines compliance.

#### Image 4. Unsatisfactory Operation

Transparent Smoke, Lasting Longer than 60 Seconds.

A transparent smoke plume of approximately 50% opacity. This picture is the same picture in Image 3 above. This photo is being reused to emphasize that smoke lasting more than 60 seconds, or smoke that occurs multiple times during a cremation, is an unsatisfactory operation of the control device.



### Image 5 Unsatisfactory Operation



Plume length is greater than one-third of the stack height above ground

#### Image 6 Unsatisfactory Operation

A mostly opaque plume whose length is greater than one-third of the stack height above ground and extends over or onto areas of public access.

**NOTE:** Opacity is measured at the point where the smoke exits the stack before it spreads out.



#### Image 7 Unsatisfactory Operation

Plume length is greater than one-third of the stack height above ground and extends over or onto areas of public access.

NOTE: This is an example of 100% opacity, measured at the point of exhaust.

# Image 9 Unsatisfactory Operation FLAMES

Any flames, regardless of intensity or duration, is unsatisfactory operation.



# Fallout Guidelines

Fallout is the settling to the ground of airborne particles ejected into the atmosphere. Fallout from a crematorium consists of incompletely combusted pathological waste. It is an unreasonable interference with the comfortable enjoyment of life and property to be impacted by fallout from the incineration of pathological waste. Furthermore, fallout emitted by a cremation unit indicates that the air-cleaning device is not being maintained and operated in a satisfactory manner per Rule 910. Fallout from a crematorium may be cited as a violation of Rules 901 and/or 910. See Appendix MAP-B below to read Rules 901 and 910.

# **Odor Guidelines**

A properly operating air-cleaning device will eliminate odors created from the cremation of pathological waste. It is an unreasonable interference with the comfortable enjoyment of life and property to impact the public with odor from the incineration of pathological waste. Furthermore, odor from a cremation unit appears to indicate that the air-cleaning device is not being maintained and operated in a satisfactory manner per Rule 910. Odor from a crematorium may be cited as a violation of Rules 901 and/or 910. See Appendix MAP-B below to read Rules 901 and 910.

# Appendix MAP-B

Michigan's Air Pollution Control Rules

# Introduction

The Michigan Air Pollution Control Rules consists of 16 parts. Parts 3 and 9 are often used by the AQD to evaluate emissions compliance. Although other parts and rules apply, this appendix places an emphasis on explaining the Part 3 rules on Particulate Matter and the Part 9 rules on Miscellaneous Emission Limitations as they apply to the cremation industry.

On the following pages, the legal text of each rule is explained with common-sense language.

Unless specified, compliance with each rule is determined independently. For example, a permittee may be in compliance with Rule 301 but at the same time may be in violation of Rule 910. Please feel free to call you AQD inspector if you have any questions.

# Part 3 Rules: Particulate Matter\*

| Rule 301<br>Smoke Density<br>and Duration | Rule 303<br>Which Test<br>You Must Use | Rule 331<br>Particulate Material<br>Emission Limits | Method 9<br>How To<br>Measure Opacity |
|---|--|---|---------------------------------------|
| Part 9 Rules: M                           | /iscellaneous*                         |   |                                       |
| Rule 901                                  | Rule 910                               | Rule 911  |                                       |

Unreasonable Interference Rule 910 Satisfactory Operation Rule 911 Malfunction Abatement

\* The complete text of the Michigan Air Pollution Control rules can be found at: <u>https://www.michigan.gov/egle/about/organization/air-quality/laws-and-rules</u>.

# PART 3. Rules: OVERVIEW

**Emission Limitations and Prohibitions – Particulate Matter** 

| Rule 301      | Rule 303     | Rule 331             | Method 9        |
|---------------|--------------|----------------------|-----------------|
| Smoke Density | Which Test   | Particulate Material | How To          |
| and Duration  | You Must Use | Emission Limits      | Measure Opacity |

### <u>Overview</u>

Rules 301, 303 and Method 9 are used together to determine compliance with smoke opacity limits. Rule 331 establishes emission limits testing requirements.

- Rule 301 establishes opacity limits that can be measured using Method 9.
- Rule 303 requires opacity to be measured according to Method 9 or another approved method.
- Rule 331 establishes a particulate matter (PM) emission limit. Compliance is determined by conducting an emissions test, if requested by the AQD.
- Method 9 defines a standardized procedure for training and certifying a visible emissions observer.

### Rule 301- Standards for density of emissions.

Rule 301 Smoke Density and Duration



### <u>Summary</u>

Because smoke emissions can quickly become a violation, it's very important that the crematory operator monitors emissions frequently to confirm that the air-cleaning device is operating properly.

Test Method 9 is used to measure smoke opacity. To use Method 9, you must be a trained and certified opacity observer. Unless certified, you cannot use Method 9 to measure smoke opacity. Even though not trained on Method 9, the crematory operator can use opacity alarms and smoke observations as indicators of compliance per the Appendix MAP-A guidelines above.

### Chart 1



This chart shows how quickly smoke opacity can become a Rule 301 violation.

These two images are examples of approximately 30% opacity (left) and 100% opacity (right). Opacity is always measured at the point where the smoke exits the exhaust stack. At 100% smoke opacity, it takes only 1-minute and 45 seconds to violate Rule 301.



### <u>Details</u>

Rule 301 states,

"(1) Except as provided in subrules (2), (3), and (4) of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:

(a) A 6-minute average of 20% opacity, except for 1 6-minute average per hour of not more than 27% opacity. [emphasis added]

(b) A limit specified by an applicable federal new source performance standard.

(c) A limit specified as a condition of a permit to install or permit to operate.

(2) The provisions of this rule shall not apply to any process or process equipment for which fugitive visible emission limitations are specified in any other administrative rule of the department.

(3) The provisions of subrule (1) of this rule shall not apply to visible emissions due to uncombined water vapor.

(4) Upon request by the owner of a process or process equipment for which an allowable particulate emission rate is established by R 336.1331, the department may establish an alternate opacity. Such alternate opacity shall not be established by the department unless the department is reasonably convinced of all of the following:

(a) That the process or process equipment subject to the alternate opacity is in compliance or on a legally enforceable schedule of compliance with the other rules of the department.

(b) That compliance with the provisions of subrule (1) of this rule is not technically or economically reasonable.

(c) That reasonable measures to reduce opacity have been implemented or will be implemented in accordance with a schedule approved by the department."

### Rule 303- Grading visible emissions.

**Rule 303** Which Test You Must Use

### <u>Summary</u>

Rule 303 says that you must use Method 9, or and approved alternate method, to measure smoke opacity. To use Method 9, you must be trained, tested, and certified. Crematory operators are not typically required to measure smoke opacity. Even though the crematory operator has not been trained on Method 9, the operator can use opacity alarms and smoke observations as indicators of compliance per the **Appendix MAP-A** guidelines above.

Details Rule 303 st

Rule 303 states,

"The opacity of a visible emission shall be determined by a qualified observer and shall be certified in accordance with, and using the procedures specified in, reference method 9 or an alternative method approved by the department."

# Rule 331- Emission of particulate matter.

**Rule 331** Particulate Material Emission Limits

#### Summary

Particulate Material (PM) emissions from a cremation unit are limited to 0.20 pounds per 1,000 pounds of exhaust gas. Cremation incinerators in the State of Michigan are not required to measure the PM exhaust rate on a continuous basis. Testing at the owner's expense may be required upon request by the AQD.

#### <u>Details</u>

Rule 331 states in part:

(1) It is unlawful for a person to cause or allow the emission of particulate matter from any process or process equipment in excess of any of the following limits:

(a) The maximum allowable emission rate listed in table 31.

(b) The maximum allowable emission rate listed by the department on its own initiative or by application. A new listed value shall be based upon the control results achievable with the application of the best technically feasible, practical equipment available. This applies only to processes and process equipment not assigned a specific emission limit in table 31.

(c) The maximum allowable emission rate specified as a condition of a permit to install or a permit to operate.

(d) The maximum allowable emission rate specified in a voluntary agreement, performance contract, stipulation, or an order of the department.

| Process or process equipment | Capacity rating for each<br>unit | Maximum allowable emission at<br>operating conditions <sup>1</sup><br>(lbs. particulate/1,000 lbs. gas except<br>as noted) | Applicable<br>reference test<br>method |
|------------------------------|----------------------------------|--|--|
| B. Incinerators              |                                  |  |  |
| 3. Pathological <sup>4</sup> |                                  | 0.20   | 5B or 5C                               |

#### Rule 331, Table 31, B.3 excerpt

4. Afterburner or approved equivalent.

# **USEPA Opacity Reference Method 9**

Method 9 Tells You How To Measure Opacity

#### <u>Summary</u>

Method 9 is a standardized system of training and testing to teach people how to measure smoke opacity with their eyes. Method 9 can be used by any certified evaluator, to measure smoke opacity. Crematory operators are not usually required to be trained and certified on using Method 9.

A person who has not been trained and certified to use Method 9 is an uncertified observer. Even though an uncertified observer cannot use Method 9 measure smoke opacity, an uncertified observer can evaluate the length, duration, and appearance of a smoke plume to determine if there is a malfunction and potential violation of the air pollution control rules. See Appendix MAP-A guidelines above.

#### <u>Details</u>

A person reading smoke opacity per Method 9 must have passed EPA certification within the previous 6 months. You can read the method and instruction manuals at <a href="https://www.epa.gov/emc/method-9-visual-opacity">https://www.epa.gov/emc/method-9-visual-opacity</a>.

# PART 9. Rules - OVERVIEW

### **Emission Limitations and Prohibitions- Miscellaneous**

| Rule 901     | Rule 910     | Rule 911    |
|--------------|--------------|-------------|
| Unreasonable | Satisfactory | Malfunction |
| Interference | Operation    | Abatement   |

<u>Overview</u>

Rules 901 and 910 are used independently to determine whether a cremation unit aircleaning device is being operated in a satisfactory manner. Rule 911 helps the crematory operator create a plan to detect, correct, and prevent malfunctions.

### Rule 901- Air contaminant or water vapor; prohibition.

Rule 901 Unreasonable Interference

### <u>Summary</u>

It is an unreasonable interference with the comfortable enjoyment of life and property to impact the public with smoke, fallout, or odor from the incineration of pathological waste. It is the permittee's responsibility to operate each cremation unit in compliance at all times. See Appendix MAP-A guidelines above.

### <u>Details</u>

Rule 901 states,

"Notwithstanding the provisions of any other rule, a person shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:

(a) Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.

(b) Unreasonable interference with the comfortable enjoyment of life and property."

### Rule 910- Air-cleaning devices.

Rule 910 Satisfactory Operation

### SUMMARY

Compliance with Rule 910 is based on operating each air-cleaning device in a satisfactory manner. The AQD determines satisfactory operation based on industry-wide field observations of air-cleaning device performance, the intensity (opacity), duration and frequency of visible emissions, and foul odors. See the **Appendix MAP-A** guidelines above.

### **DETAILS**

R 336.1910 states,

"An air-cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with these rules and existing law."

### Rule 911- Malfunction abatement plans.

Rule 911 Malfunction Abatement

### <u>SUMMARY</u>

The AQD has the authority to request a malfunction abatement plan (MAP) designed to detect, correct, and prevent malfunctions. If the provided draft MAP does not meet the Rule 911 objectives, the AQD can identify the items needing correction and request an updated MAP. If the updated MAP needs further corrections, the AQD is authorized to help the permittee by drafting an effective MAP. The permittee and the AQD inspector should review the AQD's draft MAP together to confirm that the MAP is practical and effective.

It's important to note that each MAP revision is based on information available at the time of writing and may not contain all types of malfunctions. This is why a MAP is designed to be an evolving document that's routinely updated with information on how to address new issues. Please work with your AQD inspector to keep your MAP updated.

### **DETAILS**

Rule 911 states,

"(1) Upon request of the department, a person responsible for the operation of a source of an air contaminant shall prepare a malfunction abatement plan to prevent, detect, and correct malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitation. (2) A malfunction abatement plan required by subrule (1) of this rule shall be in writing and shall, at a minimum, specify all of the following:

(a) A complete preventative maintenance program, including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

(b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

(c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

(3) A malfunction abatement plan required by subrule (1) of this rule shall be submitted to the department and shall be subject to review and approval by the department. If, in the opinion of the department, the plan does not adequately carry out the objectives as set forth in subrules (1) and (2) of this rule, then the department may disapprove the plan, state its reasons for disapproval, and order the preparation of an amended plan within the time period specified in the order. If, within the time period specified in the order, an amended plan is submitted which, in the opinion of the department, fails to meet the objective, then the department, on its own initiative, may amend the plan to cause it to meet the objective.

(4) Within 180 days after the department approves a malfunction abatement plan, a person responsible for the preparation of a malfunction abatement plan shall implement the malfunction abatement plan required by subrule (1) of this rule."

# Definitions

**Actuator** means a device that controls the flow of material (e.g., air, fuel, etc.). Belimo is a common manufacturer of actuators found on cremation units.

**Charge** means the Pathological wastes—As defined in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.51c, 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.

**Hearth Air** means Excess air injected along the sides of the primary combustion chamber to assist the combustion process and allow the primary chamber to cool following the cremation process.

**Induced Draft** is the pressure difference created by the action of a fan, blower or ejector, which is located between the incinerator and the stack, or at the stack exit.

Primary Combustion Chamber means the chamber within a cremator where primary ignition

and incineration of the remains occurs.

**Secondary Combustion Chamber** means the chamber where unburned combustible exhaust from the primary chamber is completely incinerated.

Throat Air is the air introduced into the secondary combustion chamber for emissions control.

<end Appendix Map-B>



GRETCHEN WHITMER GOVERNOR

#### STATE OF MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AIR QUALITY DIVISION



PHILLIP D. ROOS DIRECTOR

November 19, 2024

James Santeiu Southern Michigan Cremation Services R.O. Inc. (SMCS) 4839 Fernlee Avenue Royal Oak, Michigan 48073

SRN: P0932, Oakland County

Dear James Santeiu:

SUBJECT: Malfunction Abatement Plan Approval

On November 12, 2024, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) received a Malfunction Abatement Plan (MAP) from Southern Michigan Cremation Services R.O. Inc., located at 4839 Fernlee Avenue, Royal Oak, Michigan. The MAP as proposed is acceptable, however, if at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the owner or operator shall amend the plan. The MAP shall also be amended if new equipment is installed or upon request from the AQD. Be advised that any amended MAP shall be submitted to the AQD District Supervisor for review and approval.

Please contact me at the number listed below if you have any questions concerning this matter.

Sincerely,

YCe

Joyce Zhu Warren District Supervisor Air Quality Division 586-606-2572

cc: Marie Reid, EGLE Kerry Kelly, EGLE Matt Dziadzio, SMCS