**John R. Kasich**, Governor
**Mary Taylor**, Lt. Governor
**Scott J. Nally**, Director

2/25/2013

Certified Mail

CARL WEAVER
C.R.W.
P.O. BOX 80233
CANTON, OH 44708

| | |
|---|---|
| No | TOXIC REVIEW |
| No | SYNTHETIC MINOR TO AVOID MAJOR NSR |
| No | CEMS |
| No | MACT/GACT |
| No | NSPS |
| No | NESHAPS |
| No | NETTING |
| No | MODELING SUBMITTED |
| No | SYNTHETIC MINOR TO AVOID TITLE V |
| No | FEDERALLY ENFORCABLE PTIO (FEPTIO) |
| No | SYNTHETIC MINOR TO AVOID MAJOR GHG |

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1576051580
Permit Number: P0112481
Permit Type: Initial Installation
County: Stark

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to “Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General’s Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

**How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

**How to give us feedback on your permitting experience**

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

**How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Canton City Health Department at (330)489-3385or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Canton

# FINAL

# Division of Air Pollution Control
# Permit-to-Install and Operate
for
C.R.W.

| | |
|---|---|
| Facility ID: | 1576051580 |
| Permit Number: | P0112481 |
| Permit Type: | Initial Installation |
| Issued: | 2/25/2013 |
| Effective: | 2/25/2013 |
| Expiration: | 2/25/2023 |

**Division of Air Pollution Control**
**Permit-to-Install and Operate**
for
C.R.W.

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# Authorization

| | |
|---|---|
| Facility ID: | 1576051580 |
| Application Number(s): | A0046518 |
| Permit Number: | P0112481 |
| Permit Description: | Installation of a 187 lb/hr unit for human cremation to replace existing 100 lb/hr unit (N004). The new unit is Model A-250-WH from American Crematory Equipment Co., 0.75 mmBtu/hr primary burner, 1.50 mmBtu/hr afterburner. Includes opacity alarm Model MLS-A from Heat Timer Corp that signals the operator if stack opacity reaches 20%. |
| Permit Type: | Initial Installation |
| Permit Fee: | $500.00 |
| Issue Date: | 2/25/2013 |
| Effective Date: | 2/25/2013 |
| Expiration Date: | 2/25/2023 |

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

C.R.W.
4225 16TH ST SW
Canton, OH 44710

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department
420 Market Avenue
Canton, OH 44702-1544
(330)489-3385

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s))listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

# Authorization (continued)

Permit Number: P0112481
Permit Description: Installation of a 187 lb/hr unit for human cremation to replace existing 100 lb/hr unit (N004). The new unit is Model A-250-WH from American Crematory Equipment Co., 0.75 mmBtu/hr primary burner, 1.50 mmBtu/hr afterburner. Includes opacity alarm Model MLS-A from Heat Timer Corp that signals the operator if stack opacity reaches 20%.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

| | |
|---|---|
| **Emissions Unit ID:** | **N005** |
| Company Equipment ID: | Human Cremator Unit #3 (2013 replacement) |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |

# A. Standard Terms and Conditions

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement.Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is takenby Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Canton City Health Department in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting[1] a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

[1]Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

# B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

   a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

      (1) None.

   b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

      (1) None.

# C. Emissions Unit Terms and Conditions

**1. N005, Human Cremator Unit #3 (2013 replacement)**

**Operations, Property and/or Equipment Description:**

187 lb/hr natural gas-fired multiple chamber human cremator, Model A-250-WH from American Crematory Equipment Co., with 0.75 mmBtu/hr primary burner and 1.50 mmBtu/hr afterburner. Includes an opacity alarm, Model MLS-A from Heat Timer Corp, that signals the operator if stack opacity reaches 20%.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(2)d.iv. and b)(2)d.v.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3), as effective 11/30/01<br>[Best Available Technology (BAT)] | Filterable particulate emissions $(PE/PM)_{FILT}$ shall not exceed 0.10 lb/hr and 0.44 tons per year.<br>Sulfur dioxide ($SO_2$) emissions shall not exceed 0.20 lb/hr and 0.88 tons per year.<br>Nitrogen oxides ($NO_x$) emissions shall not exceed 0.55 lb/hr and 2.41 tons per year.<br>Carbon monoxide (CO) emissions shall not exceed 0.46 lb/hr and 2.01 tons per year.<br>Volatile organic compound (VOC) emissions shall not exceed 0.05 lb/hr and 0.22 tons per year. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | Visible particulate emissions from the afterburner stack shall not exceed 10% opacity as a six-minute average.<br>See b)(2)b. and b)(2)c. |
| b. | OAC rule 3745-31-05(A)(3), as effective 12/01/06<br>[less than 10 tpy BAT exemption] | See b)(2)d. |
| c. | OAC rule 3745-17-07(A)(1) | The visible particulate emission limitation specified by this rule is less stringent than the emission limit established pursuant to OAC rule 3745-31-05(A)(3) as effective 11/30/01.<br>See b)(2)d. and b)(2)d.iii. |
| d. | OAC rule 3745-17-09(B) | The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) as effective 11/30/01.<br>See b)(2)d. and b)(2)d.ii. |
| e. | OAC rule 3745-17-09(C) | See b)(2)a. |

(2) Additional Terms and Conditions

a. This cremation unit and all associated equipment and grounds shall be designed, operated, and maintained so as to prevent the emission of objectionable odors.

b. Compliance with OAC rule 3745-31-05(A)(3), as effective 11/30/01, shall also be demonstrated as follows:

i. compliance with Operational Restrictions c)(1) – c)(11) below; and

ii. compliance with Monitoring and/or Recordkeeping Requirements d)(1) – d)(5) below.

c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform with ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for sources having potential to emit, taking into account controls, less than ten tons per year of emissions of

an NAAQS pollutant or precursor. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirements to satisfy BAT still exist as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then the emission limits listed above in b)(1)a. no longer apply. Other requirements listed above in b)(1)a. will no longer apply under that rule, but may still apply under different rules (see d. below).

d. This rule only applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan. In that case only, the following Terms and Conditions shall apply:

i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/$PM_{10}$, $SO_2$, $NO_x$, CO and VOC emissions from this air contaminant source since the uncontrolled potential to emit for PE/$PM_{10}$*, $SO_2$, $NO_x$, CO and VOC is less than ten tons per year each.

*The uncontrolled potential to emit for total particulate emissions (PE/PM) is less than 10 tpy year, so the subset PE/$PM_{10}$ is also less than 10 tpy by definition.

ii. Filterable particulate emissions $(PE/PM)_{FILT}$ shall not exceed 0.10 pound per 100 pounds of charge [OAC rule 3745-17-09(B)].

iii. Visible particulate emissions from the afterburner stack shall not exceed 20% opacity as a six-minute average, except as provided by rule [OAC rule 3745-17-07(A)(1)].

iv. Operational Restrictions c)(1) – c)(11) shall still apply, not as BAT requirements, but rather as voluntary measures accepted by the permittee to ensure compliance with OAC rules 3745-17-07(A)(1) and 3745-17-09(B).

v. Monitoring and/or Recordkeeping Requirements d)(1) – d)(5) shall still apply, not as BAT requirements, but rather as voluntary measures accepted by the permittee to ensure compliance with OAC rules 3745-17-07(A)(1) and 3745-17-09(B).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in the burners of this cremation unit.

(2) The actual burn time used to complete each cremation shall be based on the charge weight and the manufacturer's recommendation for that weight, provided that the average charge rate for each cremation does not exceed 187 lbs of material per hour.

(3) This cremation unit shall be equipped with an afterburner designed to achieve at least 2.0 seconds retention time in the secondary chamber. The afterburner shall be used at all times this cremation unit is in operation.

(4) The permittee shall install, operate, and properly maintain temperature gauges which continuously monitor the temperatures of the primary chamber exit gas and the afterburner exit gas.

(5) The cremation unit shall not be operated unless the temperature monitoring devices are operating properly.

(6) This cremation unit shall be installed, operated, and maintained in accordance with the manufacturer's specifications. This includes but is not limited to:

a. at the start of each cremation, the afterburner exit gas temperature must reach the minimum temperature recommended by the manufacturer, but not less than 1500 degrees Fahrenheit before ignition of the primary burner;

b. after ignition of the primary burner, the afterburner exit gas shall be maintained at or above a minimum temperature of 1600 degrees Fahrenheit during the entire cremation cycle except for the brief period of time when the charge is inserted into the primary chamber allowing excess air to enter the cremation unit; and

c. the primary chamber exit gas shall be maintained at or above a minimum temperature of 1400 degrees Fahrenheit during the entire cremation cycle except for the brief period of time when the charge is inserted into the primary chamber allowing excess air to enter the cremation unit.

(7) The manufacturer's representative or another qualified training source shall provide adequate instruction to all operators of this cremation unit including hands-on control of the unit for at least two operating cycles. The training shall include all of the following elements:

a. principles of combustion;

b. operating monitors and controls;

c. the proper operating sequence under normal conditions;

d. safety and operating procedures under foreseeable upset conditions (e.g., power or fuel interruption, burner malfunction, visible emissions, high and low temperature incidents, etc.);

e. regulatory requirements;

f. calibration, adjustment, and replacement of thermocouples;

g. preventive maintenance practices, procedures, and recommended frequencies; and

h. recordkeeping requirements and procedures.

A copy of all the training records for each operator shall be maintained on file as long as that operator is employed for that job and shall be immediately available to the Canton City Health Department, Air Pollution Control Division upon request.

(8) Ashes shall be removed from the primary chamber after each cremation.

(9) To the extent possible, non-combustible material (except for personal items requested to be included by the family) shall be removed from the material charged to this cremation unit.

(10) This cremation unit shall not be used to dispose of any "medical or infectious waste" as defined in OAC rule 3745-75-01.

(11) The stack shall be designed to minimize any building downwash impacts from emissions and/or odors on employees and nearby residences, businesses, or public or private spaces. The design shall meet good engineering practices so as not to result in excessive concentrations of air contaminants and/or odors in locations at, near, or in such a configuration, as to affect any air intake for heating and cooling of buildings or at operable windows or doors.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform daily checks*, when the cremation unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this cremation unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any observed visible emission incident; and

e. any corrective actions taken to <u>eliminate</u> the visible emissions if the 10% opacity limit described in b)(1)(a) above is in effect, or any corrective actions taken to <u>minimize or eliminate</u> the visible emissions if the 20% opacity limit described in b)(2)d.iii. above is in effect.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

* In lieu of daily visible emissions checks, the permittee may install an opacity alarm system on this emissions unit, provided the alarm is set to signal the operator at an opacity level of 20% or less. The opacity alarm shall be installed, operated and maintained in accordance with the manufacturer's specifications and a daily operations log shall be maintained that is consistent with requirements a. – e. above. This option for an opacity alarm applies only if the 20% opacity limit described in b)(2)d.iii. above is in effect. If the 10% opacity limit described in b)(1)(a) above is in effect, then daily visible checks must still be performed whether or not an opacity alarm is utilized.

(2) The permittee shall maintain daily records of the following information for this cremation unit:

a. at the start of each cremation, record the temperature of the afterburner exit gas in degrees Fahrenheit before ignition of the primary burner;

b. for each cremation, record all periods of time during which the temperature of the afterburner exit gas dropped below 1600 degrees Fahrenheit (except as noted in c)(6)b. above) and the corrective actions that were taken to achieve proper operating temperature;

c. for each cremation, record all periods of time during which the temperature of the primary chamber exit gas dropped below 1400 degrees Fahrenheit (except as noted in c)(6)c. above) and the corrective actions that were taken to achieve proper operating temperature;

d. the total weight of each charge in pounds;

e. the amount of actual burn time needed to complete cremation for each charge; and

f. a log of the time and date that ash is removed from this cremation unit.

(3) The permittee shall inspect this cremation unit using preventive maintenance procedures recommended by the equipment manufacturer. The inspection should be done at least semi-annually (more often if recommended by the equipment manufacturer). Each inspection shall include a written log which documents the findings of the inspection and identifies any needed cleaning or repairs to both the primary burner and afterburner chambers. If cleaning or repairs are needed, the cremation unit shall not be operated if the operation would result in any exceedance of the emission limits detailed in this permit.

(4) Copies of contractor's invoices of maintenance and repairs shall be maintained on site for no less than five (5) years.

(5) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this cremation unit.

e) Reporting Requirements

(1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Canton City Health Department, Air Pollution Control Division by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered. The permittee shall also identify the following information in the annual permit evaluation:

a. all periods of time during which a fuel other than natural gas was burned in this cremation unit;

b. the day(s) and time(s) during which the temperature of the afterburner exit gas dropped below 1600 degrees Fahrenheit during operation of this cremation unit (except as noted in c)(6)b. above) and the corrective actions that were taken to achieve proper operating temperature;

c. the day(s) and time(s) during which the temperature of the primary burner exit gas dropped below 1400 degrees Fahrenheit during operation of this cremation unit (except as noted in c)(6)c. above) and the corrective actions that were taken to achieve proper operating temperature; and

d. all days during which any visible particulate emissions were observed from the stack serving this cremation unit, and any corrective actions that were taken in accordance with d)(1)e. above.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitations:</u>

Filterable particulate emissions ($PE/PM_{FILT}$) shall not exceed 0.10 lb/hr and 0.44 tons per year if b)(1)a. above (BAT limitation) is applicable. Otherwise, see b. below.

<u>Applicable Compliance Method:</u>

The hourly emission limitation was established based upon the manufacturer's maximum potential-to-emit data for the A-250-WH Cremator (as provided by the permittee in the permit application), which was itself based upon stack testing conducted March 31 – April 1, 2009. The maximum value from three test runs was 0.074 lb/hr, which was then rounded up to 0.10 lb/hr as a conservative measure.

If required, compliance with the hourly filterable particulate emission limitation shall be demonstrated based upon emissions testing performed according to

Method 5 in Appendix A of 40 CFR Part 60 and the procedures specified in OAC rule 3745-17-03(B)(8).

The annual emission limitation was established by multiplying the hourly limit by 8760 hr/yr, then dividing by 2000 lb/ton ($PE/PM_{FILT}$ is abbreviated as "PE" in the following equation):

$$(0.10\ lb_{PE}/hr) \times (8760\ hr/yr) \div 2000\ lb/ton = 0.44\ ton_{PE}/yr$$

Compliance with the annual filterable particulate emission limitation shall be assumed based upon a demonstration of compliance with the hourly limitation.

b. Emission Limitation:

Filterable particulate emissions ($PE/PM_{FILT}$) shall not exceed 0.10 pound per 100 pounds of material charged if b)(2)d.ii. above (OAC rule 3745-17-09(B)) is applicable. Otherwise, see a. above.

Applicable Compliance Method:

For informational purposes, the maximum hourly potential-to-emit of 0.10 lb/hr as described in a. above for this cremation unit can be compared to the rule-based limit of 0.10 lb per 100 pounds of material charged by first multiplying the rule-based limit by the maximum rated charge rate of 187 lb/hr for this cremation unit ($PE/PM_{FILT}$ is abbreviated as "PE" in the following equation):

$$(0.10\ lb_{PE}/100\ lb_{CHARGE}) \times (187\ lb_{CHARGE}/hr) = 0.187\ lb_{PE}/hr$$

$0.187\ lb_{PE}/hr$ is therefore the APPLIED RULE-BASED LIMIT at maximum rated capacity.

$$0.10\ lb_{PE}/hr_{POTENTIAL\text{-}TO\text{-}EMIT} < 0.187\ lb_{PE}/hr_{APPLIED\ RULE\text{-}BASED\ LIMIT}$$

If required, compliance shall be demonstrated based upon emissions testing performed according to Method 5 in Appendix A of 40 CFR Part 60 and the procedures specified in OAC rule 3745-17-03(B)(8).

c. Emission Limitation:

Sulfur dioxide ($SO_2$) emissions shall not exceed 0.20 lb/hr and 0.88 tons per year if b)(1)a. above (BAT limitation) is applicable.

Applicable Compliance Method:

The hourly emission limitation was established based upon the following calculation of maximum potential-to-emit from incineration of the body (including casket or wrapping) plus the burning of natural gas at the maximum rate of 2.25 mmBtu/hr (0.75 mmBtu/hr primary burner plus 1.50 mmBtu/hr afterburner):

① Body + casket:
Emission Factor = 2.17 $lb_{SO2}$ /$ton_{CHARGE}$
Reference: U.S. EPA, AP-42 Table 2.3-1, medical waste, uncontrolled.

(2.17 $lb_{SO2}$ /ton) ÷ (2000 lb/ton) x (187 $lb/hr_{MAX\ BURN\ RATE}$) = 0.203 $lb_{SO2}$/hr

② Natural gas combustion:
Emission Factor = 0.6 $lb_{SO2}$ /$10^6$scf
Reference: U.S. EPA, AP-42 Table 1.4-2.

(0.6 $lb_{SO2}$/$10^6$scf) ÷ (1020 Btu/scf) x (2.25 x $10^6$ Btu/hr) = 0.0013 $lb_{SO2}$/hr

① + ② = 0.203 + 0.0013 = 0.204 ≈ 0.20 $lb_{SO2}$/hr

If required, compliance with the hourly $SO_2$ emission limitation shall be demonstrated based upon emissions testing performed according to Method 6 or 6C in Appendix A of 40 CFR Part 60.

The annual emission limitation was established by multiplying the hourly limit by 8760 hr/yr, then dividing by 2000 lb/ton:

(0.20 $lb_{SO2}$/hr) x (8760 hr/yr) ÷ 2000 lb/ton = 0.88 $ton_{SO2}$/yr

Compliance with the annual $SO_2$ emission limitation shall be assumed based upon a demonstration of compliance with the hourly limitation.

d. Emission Limitation:

Nitrogen oxides ($NO_X$) emissions shall not exceed 0.55 lb/hr and 2.41 tons per year if b)(1)a. above (BAT limitation) is applicable.

Applicable Compliance Method(s):

The hourly emission limitation was established based upon the following calculation of maximum potential-to-emit from incineration of the body (including casket or wrapping) plus the burning of natural gas at the maximum rate of 2.25 mmBtu/hr (0.75 mmBtu/hr primary burner plus 1.50 mmBtu/hr afterburner):

① Body + casket:
Emission Factor = 3.56 $lb_{NOx}$ /$ton_{CHARGE}$
Reference: U.S. EPA, AP-42 Table 2.3-1, medical waste, uncontrolled.

(3.56 $lb_{NOx}$ /ton) ÷ (2000lb/ton) x (187 $lb/hr_{MAX\ BURN\ RATE}$) = 0.332 $lb_{NOx}$/hr

② Natural gas combustion:
Emission Factor = 100 $lb_{NOx}$ /$10^6$scf
Reference: U.S. EPA, AP-42 Table 1.4-1, small boilers, uncontrolled

$(100\ lb_{NOx}/10^6 scf) \div (1020\ Btu/scf) \times (2.25 \times 10^6\ Btu/hr) = 0.221\ lb_{NOx}/hr$

① + ② = 0.332 + 0.221 = 0.553 ≈ 0.55 $lb_{NOx}/hr$

If required, compliance with the hourly $NO_X$ emission limitation shall be demonstrated based upon emissions testing performed according to Method 7 or 7E in Appendix A of 40 CFR Part 60.

The annual emission limitation was established by multiplying the hourly limit by 8760 hr/yr, then dividing by 2000 lb/ton:

$(0.55\ lb_{NOx}/hr) \times (8760\ hr/yr) \div 2000\ lb/ton = 2.41\ ton_{NOx}/yr$

Compliance with the annual $NO_X$ emission limitation shall be assumed based upon a demonstration of compliance with the hourly limitation.

e. Emission Limitation:

Carbon monoxide (CO) emissions shall not exceed 0.46 lb/hr and 2.01 tons per year if b)(1)a. above (BAT limitation) is applicable.

Applicable Compliance Method(s):

The hourly emission limitation was established based upon the following calculation of maximum potential-to-emit from incineration of the body (including casket or wrapping) plus the burning of natural gas at the maximum rate of 2.25 mmBtu/hr (0.75 mmBtu/hr primary burner plus 1.50 mmBtu/hr afterburner):

① Body + casket:
Emission Factor = 2.95 $lb_{CO}/ton_{CHARGE}$
Reference: U.S. EPA, AP-42 Table 2.3-1, medical waste, uncontrolled.

$(2.95\ lb_{CO}/ton) \div (2000 lb/ton) \times (187\ lb/hr_{MAX\ BURN\ RATE}) = 0.276\ lb_{CO}/hr$

② Natural gas combustion:
Emission Factor = 84 $lb_{CO}/10^6 scf$
Reference: U.S. EPA, AP-42 Table 1.4-1, small boilers, uncontrolled

$(84\ lb_{CO}/10^6 scf) \div (1020\ Btu/scf) \times (2.25 \times 10^6\ Btu/hr) = 0.185\ lb_{CO}/hr$

① + ② = 0.276 + 0.185 = 0.461 ≈ 0.46 $lb_{CO}/hr$

If required, compliance with the hourly CO emission limitation shall be demonstrated based upon emissions testing performed according to Method 10 or 10B in Appendix A of 40 CFR Part 60.

The annual emission limitation was established by multiplying the hourly limit by 8760 hr/yr, then dividing by 2000 lb/ton.

(0.46 lb/hr) x (8760 hr/yr) ÷ 2000 lb/ton = 2.01 ton/yr

Compliance with the annual CO emission limitation shall be assumed based upon a demonstration of compliance with the hourly limitation.

f. Emission Limitation:

Volatile organic compound (VOC) emissions shall not exceed 0.05 lb/hr and 0.22 tons per year if b)(1)a. above (BAT limitation) is applicable.

Applicable Compliance Method(s):

The hourly emission limitation was established based upon the following calculation of maximum potential-to-emit from incineration of the body (including casket or wrapping) plus the burning of natural gas at the maximum rate of 2.25 mmBtu/hr (0.75 mmBtu/hr primary burner plus 1.50 mmBtu/hr afterburner):

① Body + casket:

Emission Factor = 0.299 $lb_{VOC}$ /$ton_{CHARGE}$

Reference: U.S. EPA, AP-42 Table 2.3-2, medical waste, uncontrolled. A conservative assumption has been made that all OC = VOC.

(0.299 $lb_{VOC}$ /ton) ÷ (2000lb/ton) x (187 $lb/hr_{MAX\ BURN\ RATE}$) = 0.028 $lb_{VOC}$/hr

② Natural gas combustion:

Emission Factor = 11 $lb_{VOC}$ /$10^6$scf

Reference: U.S. EPA, AP-42 Table 1.4-2.

(11 $lb_{VOC}$/$10^6$scf) ÷ (1020 Btu/scf) x (2.25 x $10^6$ Btu/hr) ≈ 0.024 $lb_{VOC}$/hr

① + ② = 0.028 + 0.024 = 0.052 ≈ 0.05 $lb_{VOC}$/hr

If required, compliance with the hourly VOC emission limitation shall be demonstrated based upon emissions testing performed according to Method 25 or 25A in Appendix A of 40 CFR Part 60.

The annual emission limitation was established by multiplying the hourly limit by 8760 hr/yr, then dividing by 2000 lb/ton:

(0.05 $lb_{VOC}$/hr) x (8760 hr/yr) ÷ 2000 lb/ton = 0.22 $ton_{VOC}$/yr

Compliance with the annual VOC emission limitation shall be assumed based upon a demonstration of compliance with the hourly limitation.

g. Emission Limitation:

If b)(1)a. above (BAT limitation) is applicable, visible particulate emissions from the afterburner stack shall not exceed 10% opacity as a six-minute average; or

if b)(2)d.iii. above (OAC rule 3745-17-07(A)(1)) is applicable, visible particulate emissions from the stack serving this cremation unit shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the applicable visible particulate emissions limitation identified above shall be demonstrated based upon visible emissions observations performed according to Method 9 in Appendix A of 40 CFR Part 60.

(2) Compliance with selected critical Operational Restrictions specified in section c) of these terms and conditions shall be determined in accordance with the following methods:

a. Operational Restriction:

The actual burn time used to complete each cremation shall be based on the charge weight and the manufacturer's recommendation for that weight, provided that the average charge rate for each cremation does not exceed 187 lbs of material per hour.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping specified in d)(2)d. and d)(2)e. above and the following calculation:

total charge weight (lb) ÷ actual burn time (hr) = ≤ 187 lb/hr

b. Operational Restriction:

At the start of each cremation, the afterburner exit gas temperature must reach the minimum temperature recommended by the manufacturer, but not less than 1500 degrees Fahrenheit before ignition of the primary burner.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping specified in d)(2)a. above.

c. Operational Restriction:

After ignition of the primary burner, the afterburner exit gas shall be maintained at or above a minimum temperature of 1600 degrees Fahrenheit during the entire cremation cycle except for the brief period of time when the charge is inserted into the primary chamber allowing excess air to enter the cremation unit.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping specified in d)(2)b. above. In this case, compliance means the absence of a record showing any periods of time during which the temperature of the afterburner exit gas dropped below 1600 degrees Fahrenheit.

d. Operational Restriction:

The primary chamber exit gas shall be maintained at or above a minimum temperature of 1400 degrees Fahrenheit during the entire cremation cycle except for the brief period of time when the charge is inserted into the primary chamber allowing excess air to enter the cremation unit.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping specified in d)(2)c. above. In this case, compliance means the absence of a record showing any periods of time during which the temperature of the primary chamber exit gas dropped below 1400 degrees Fahrenheit.

g) Miscellaneous Requirements

(1) In accordance with ORC section 4717.13(A)(9), the permittee shall not cremate animals in a cremation chamber in which dead human bodies or body parts are cremated and the permittee shall not cremate dead human bodies or human body parts in a cremation chamber in which dead animals are cremated.