



12/10/2013

Certified Mail

Gretchen Farnung
BATTELLE MEMORIAL INSTITUTE
505 KING AVE
COLUMBUS, OH 43201

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	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: 0149000077
Permit Number: P0115629
Permit Type: OAC Chapter 3745-31 Modification
County: Madison

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/survey.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 Ohio EPA DAPC, Central District Office at (614)728-3778 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

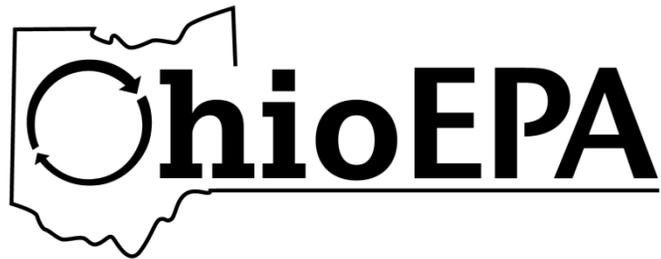
Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-CDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
BATTELLE MEMORIAL INSTITUTE**

Facility ID:	0149000077
Permit Number:	P0115629
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	12/10/2013
Effective:	12/10/2013
Expiration:	6/16/2020



Division of Air Pollution Control
Permit-to-Install and Operate
for
BATTELLE MEMORIAL INSTITUTE

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Final Permit-to-Install and Operate
BATTELLE MEMORIAL INSTITUTE
Permit Number: P0115629
Facility ID: 0149000077
Effective Date: 12/10/2013

Authorization

Facility ID: 0149000077
Application Number(s): A0049120
Permit Number: P0115629
Permit Description: Chapter 31 modification to the pathological waste incinerator (N001) to establish an operational limitation of 99 lbs of waste charged per 60-minute period and to re-assign the applicable PE standard from OAC rule 3745-105-02.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$100.00
Issue Date: 12/10/2013
Effective Date: 12/10/2013
Expiration Date: 6/16/2020
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

BATTELLE MEMORIAL INSTITUTE
ENGINEERING AREA - MIDDLE & SOUTH
WEST JEFFERSON, OH 43162

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:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

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

A handwritten signature in black ink, appearing to read "Scott J. Nally".

Scott J. Nally
Director



Final Permit-to-Install and Operate
BATTELLE MEMORIAL INSTITUTE
Permit Number: P0115629
Facility ID: 0149000077
Effective Date: 12/10/2013

Authorization (continued)

Permit Number: P0115629
Permit Description: Chapter 31 modification to the pathological waste incinerator (N001) to establish an operational limitation of 99 lbs of waste charged per 60-minute period and to re-assign the applicable PE standard from OAC rule 3745-105-02.

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

Emissions Unit ID:	N001
Company Equipment ID:	Jm-3 Pathological Incinerator
Superseded Permit Number:	01-604
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
BATTELLE MEMORIAL INSTITUTE
Permit Number: P0115629
Facility ID: 0149000077
Effective Date: 12/10/2013

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. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. 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 taken by 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 of this permit 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 [DO/LAA] 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 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 emission 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.

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.



Final Permit-to-Install and Operate
BATTELLE MEMORIAL INSTITUTE
Permit Number: P0115629
Facility ID: 0149000077
Effective Date: 12/10/2013

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.



Final Permit-to-Install and Operate
BATTELLE MEMORIAL INSTITUTE
Permit Number: P0115629
Facility ID: 0149000077
Effective Date: 12/10/2013

C. Emissions Unit Terms and Conditions



1. N001, Jm-3 Pathological Incinerator

Operations, Property and/or Equipment Description:

JM-3 Intermittent-feed, controlled air, pathological waste incinerator with a rated capacity of 200 lbs/hr

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)(1)c. and c)(1)

(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 operation(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 are identified below. 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)	<p>Emissions of particulate matter less than ten micrometers in aerodynamic diameter (PM₁₀) shall not exceed 0.06 tons per month averaged over a 12-month rolling period.</p> <p>Emissions of particulate matter less than 2.5 micrometers in aerodynamic diameter (PM_{2.5}) shall not exceed 0.04 tons per month averaged over a 12-month rolling period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.05 tons per month averaged over a 12-month rolling period.</p> <p>Nitrogen oxide (NO_x) emissions shall not exceed 0.06 tons per month averaged</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>over a 12-month rolling period.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 0.04 tons per month averaged over a 12-month rolling period.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.01 tons per month averaged over a 12-month rolling period.</p> <p>Lead emissions shall not exceed 0.001 tons per month averaged over a 12-month rolling period.</p> <p>See b)(2)a. and b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.
c.	OAC rule 3745-31-05(E)	See c)(1)
d.	OAC rules 3745-105-02(A), (D), and (E)	<p>PE shall not exceed 0.20 pounds per 100 pounds of waste charged.</p> <p>CO emissions shall not exceed 100 parts per million, by volume, on a dry basis, adjusted to 7% oxygen as an hourly average.</p> <p>Visible particulate emissions shall not exceed 5% opacity except for six minutes in any continuous sixty minute period during which opacity shall not exceed 10%.</p> <p>See b)(2)d. and c)(2) through c)(5)</p>
e.	OAC rule 3745-17-09(B)	The PE limitation established by this rule is equivalent to the PE limitation established pursuant to OAC rule 3745-105-02(A).
f.	OAC rule 3745-17-07(A)	The visible particulate emissions limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-105-02(E).
g.	40 CFR Part 60, subpart Ec	See b)(2)e.
h.	40 CFR Part 60, subpart CCCC	See b)(2)f.
i.	40 CFR Part 60, subpart EEEE	See b)(2)g.



(2) Additional Terms and Conditions

- a. The permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for emissions units that have the potential to emit less than ten tons per year for pollutants to which National Ambient Air Quality Standards (NAAQS) apply. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the SIP revision occurs and U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. When U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05, these emissions limitations/control measures will no longer apply.
- b. The monthly BAT emissions limitations established for PE, PM_{2.5}, CO, NO_x, SO₂, VOC, and lead emissions were established to reflect the potential to emit for this emissions unit. It is not necessary to develop monitoring, recordkeeping, and reporting requirements in order to demonstrate compliance with these limitations.
- c. The following rule paragraphs will apply when U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP:
 - i. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, PM_{2.5}, CO, NO_x, SO₂, VOC, and lead emissions for this emissions unit because the uncontrolled potential to emit for each pollutant is less than ten tons per year.
- d. For the purpose of demonstrating compliance with OAC rule 3745-105-02 and 40 CFR Part 60, subparts Ec, CCCC, and EEEE, "pathological waste" means waste material 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 (if applicable).

The permittee shall comply with the following design parameters and operational restrictions, as applicable, pursuant to OAC rules 3745-105-03 and 3745-105-04:

- i. The stack or stacks from the pathological waste incinerator shall be designed to minimize the impact of the emissions on employees, residents, patients, visitors, or nearby residences. The design of any unit shall meet good engineering practices so as not to cause excessive concentrations of any air contaminant at any air intake for heating and cooling of any building, or at operable windows, or doors;
- ii. If the pathological waste incinerator is mechanically-fed, it must be equipped with an air lock system to prevent opening the incinerator to the room environment. The volume of the loading systems shall be designed so as to prevent overcharging of the unit to assure complete combustion of waste;



- iii. The pathological waste incinerator, including all associated equipment and grounds, shall be designed, operated, and maintained to prevent the emission of objectionable odors;
 - iv. The pathological waste incinerator shall be equipped with a continuous temperature recorder for the primary and secondary combustion chambers;
 - v. The permittee shall install a scale, accurate to within one pound, near the pathological waste incinerator to weigh all of the material charged to the unit;
 - vi. The permittee shall install and operate a radioactivity monitor and alarm. The radioactivity monitor shall be installed to monitor all pathological waste prior to combustion; and
 - vii. Pathological waste that is also radioactive shall be managed in accordance with the applicable rules of the Ohio Department of Health and regulations of the United States Nuclear Regulatory Commission.
- e. Pursuant to 40 CFR Part 60.50c(b), an incinerator is not subject to the provisions of subpart Ecduring periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste (all defined in § 60.51c) is burned, provided the owner or operator of the combustor:
- i. Notifies the Administrator of an exemption claim; and
 - ii. Keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactivewaste and/or chemotherapeutic waste is burned.
- f. Pursuant to 40 CFR Part 60.2020(a) incineration units are not subject to the provisions of subpart CCCC when burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in § 60.2265 provided the owner or operator of the combustor:
- i. Notifies the Administrator that the unit meets these criteria; and
 - ii. Keeps records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.
- g. Pursuant to 40 CFR Part 60.2887(l) incineration units are not subject to the provisions of subpart EEEE when burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in § 60.2977 provided the owner or operator of the combustor:



- i. Notifies the Administrator that the unit meets these criteria.
- c) Operational Restrictions
- (1) The operational capacity of the incinerator shall be limited such that no more than 99 pounds of pathological waste may be loaded per 60-minute period.
 - (2) The incineration of pathological waste shall occur in a controlled air multi-chamber incinerator which provides complete combustion of waste, excluding metallic items, to carbonized or mineralized ash. Any ash that does not meet the criteria shall be re-incinerated.
 - (3) The primary combustion chamber shall be maintained so that the exit gas temperature is a minimum of 1,200 degrees Fahrenheit and the secondary combustion chamber shall be maintained so that the temperature of the gas exiting the secondary combustion chamber is a minimum of 1,600 degrees Fahrenheit.
 - (4) The secondary combustion chamber of any pathological waste incinerator constructed on or before January 1, 1991, shall provide a minimum one-second retention time at 1,600 degrees Fahrenheit except for any unit that has a longer retention time specified in an Ohio EPA permit-to-install or permit-to-install and operate.
 - (5) The permittee shall not intentionally dispose of the following items by burning in the incinerator:
 - a. Visible globular mercury;
 - b. Nickel-cadmium batteries;
 - c. Switches thermometers, batteries, and other devices containing mercury; and
 - d. Bags or other containers for infectious waste handling which contain cadmium, chromium or lead as a pigmenting agent.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall maintain a written log to record the amount of material charged to the incinerator on a pounds per batch basis. Alternative arrangements may be approved by the director provided they can be shown to be of equivalent effectiveness as a method of regulating flow into the incinerator and generating a permanent record of charging rates.

For the purpose of demonstrating compliance with the operational capacity limitation, the permittee shall maintain an operating log that includes the following information at a minimum:

 - a. The name of the person(s) operating the incinerator;
 - b. The date and time that any material is charged to the incinerator;
 - c. A description of the waste being charged to the incinerator; and



- d. The weight of all material being charged to the incinerator.
- (2) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the primary and the secondary combustion chamber temperatures, in degrees Fahrenheit, during each combustion cycle. The temperature monitor recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee. The monitoring and recording devices shall be capable of accurately measuring the desired parameter.
 - (3) The permittee shall maintain a log of all periods of time when the emissions unit is in operation during which the primary chamber temperature was less than 1,200 degrees Fahrenheit and/or when the secondary chamber temperature was less than 1,600 degrees Fahrenheit.
 - (4) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible particulate emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the visible particulate emissions;
 - b. whether the visible particulate emissions are representative of normal operations;
 - c. if the visible particulate emissions are not representative of normal operations, the cause of the abnormal visible particulate emissions;
 - d. the total duration of any visible particulate emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible particulate emissions.

If visible particulate emissions are present, a visible particulate emissions incident has occurred. The observer does not have to document the exact start and end times for the visible particulate emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible particulate 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 particulate 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 particulate emissions.

- (5) The permittee shall maintain the following records, on a calendar quarter basis, for the purpose of demonstrating that the pathological waste incinerator is not subject to the provisions of 40 CFR Part 60, subparts Ec, CCCC, and EEEE:



- a. All periods of time when only pathological waste, low-level radioactivewaste and/or chemotherapeutic waste is burned; and
- b. The weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

Low-level radioactive waste is defined in each subpart as waste material that contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or byproduct material as defined by the Atomic Energy Act of 1954 [42 U.S.C. 2014(e)(2)].

Chemotherapeutic waste is defined in each subpart as waste material resulting from the production or use of anti-neoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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 identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in d)(4) above:

- a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.
- (2) The permittee shall submit quarterly deviation (excursion) reports to Central District Office documenting all instances of values in excess of the limitations specified in OAC rule 3745-105-02.

The quarterly deviation (excursion) reports shall include any period of time when the emissions unit is in operation during which the primary chamber temperature was less than 1,200 degrees Fahrenheit and/or when the secondary chamber temperature was less than 1,600 degrees Fahrenheit.

The quarterly deviation (excursion) reports shall include any 60-minute period during which more than 99 pounds of material was loaded.



The quarterly deviation (excursion) reports shall include every instance of activation of the radioactivity alarm, the reason for the alarm, and the corrective action taken.

The quarterly deviation (excursion) reports shall include the following information for the purpose of demonstrating that the pathological waste incinerator is not subject to the provisions of 40 CFR Part 60, subparts Ec, CCCC, and EEEE:

- a. Any period of time when a waste other than pathological waste, low-level radioactivewaste and/or chemotherapeutic waste was charged in the incinerator; and
- b. The percentage, by weight, of charged pathological waste, low-level radioactivewaste and/or chemotherapeutic waste as compared to the total weight of charged waste including waste that does not meet the definition of pathological waste, low-level radioactivewaste and/or chemotherapeutic waste.

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall immediately report any instance of radioactivity alarm activation to the environmental radiation safety section of the bureau of radiation protection of the Ohio Department of Health.
 - (4) All recording charts and charging records shall be maintained for a period of five years and shall be made available for inspection by Ohio EPA personnel at any reasonable time.
- 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. Emissions Limitation:

PM₁₀ emissions shall not exceed 0.06 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly PM₁₀ emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the calculated PM₁₀ emission factor (4.67



lbsPE/Ton * 65%) from Table 2.3-2 and Table 2.3-15 of AP-42 Chapter 2.3 Medical Waste Incineration (July 1993) and divided by 2,000 lbs to convert to tons of PM₁₀. The calculated annual PM₁₀ value was then divided by 12 to establish the monthly PM₁₀ emissions limitation.

b. Emissions Limitation:

PM_{2.5} emissions shall not exceed 0.04 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly PM_{2.5} emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the calculated PM_{2.5} emission factor (4.67 lbs PE/Ton * 43.3%) from Table 2.3-2 and Table 2.3-15 of AP-42 Chapter 2.3 Medical Waste Incineration (July 1993) and divided by 2,000 lbs to convert to tons of PM_{2.5}. The calculated annual PM_{2.5} value was then divided by 12 to establish the monthly PM_{2.5} emissions limitation.

c. Emissions Limitation:

CO emissions shall not exceed 0.05 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly CO emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the CO emission factor (2.95 lbs CO/Ton) from Table 2.3-1 of AP-42 Chapter 2.3 Medical Waste Incineration (July 1993) and divided by 2,000 lbs to convert to tons of CO. The calculated annual CO value was then divided by 12 to establish the monthly CO emissions limitation.

d. Emissions Limitations:

NO_x emissions shall not exceed 0.06 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly NO_x emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the NO_x emission factor (3.56 lbs NO_x /Ton) from Table 2.3-1 of AP-42 Chapter 2.3 Medical Waste Incineration (July 1993)



and divided by 2,000 lbs to convert to tons of NO_x. The calculated annual NO_x value was then divided by 12 to establish the monthly NO_x emissions limitation.

e. Emissions Limitations:

SO₂ emissions shall not exceed 0.04 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly SO₂ emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the SO₂ emission factor (2.17 lbs SO₂ /Ton) from Table 2.3-1 of AP-42 *Chapter 2.3 Medical Waste Incineration* (July 1993) and divided by 2,000 lbs to convert to tons of SO₂. The calculated annual SO₂ value was then divided by 12 to establish the monthly SO₂ emissions limitation.

f. Emissions Limitations:

VOC emissions shall not exceed 0.01 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly VOC emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the TOC emission factor (0.299 lbs TOC/Ton) from Table 2.3-2 of AP-42 *Chapter 2.3 Medical Waste Incineration* (July 1993) and divided by 2,000 lbs to convert to tons of VOC. The calculated annual VOC value was then divided by 12 to establish the monthly VOC emissions limitation.

g. Emissions Limitations:

Lead emissions shall not exceed 0.001 tons per month averaged over a 12-month rolling period (as applicable prior to U.S. EPA approving the December 1, 2006, version of OAC rule 3745-31-05 as part of the SIP).

Applicable Compliance Method:

The monthly lead emissions limitation was established by multiplying the maximum allowable operating capacity of the incinerator (99 lbs waste charged/hr) by 8,760 hours per year and dividing by 2,000 lbs to convert to tons. The result was then multiplied by the lead emission factor (0.0728 lbs lead /Ton) from Table 2.3-2 of AP-42 *Chapter 2.3 Medical Waste Incineration* (July 1993) and divided by 2,000 lbs to convert to tons of lead. The calculated annual lead value was then divided by 12 to establish the monthly lead emissions limitation.



h. Emissions Limitation:

PE shall not exceed 0.20 pounds per 100 pounds of waste charged.

Applicable Compliance Method:

Compliance with the PE limitation shall be determined in accordance with the performance testing requirements established in f)(2) below.

i. Emissions Limitation:

CO emissions shall not exceed 100 parts per million, by volume, on a dry basis, adjusted to 7% oxygen as an hourly average.

Applicable Compliance Method:

Compliance with the CO emissions limitation shall be determined in accordance with the performance testing requirements established in f)(2) below.

j. Emissions Limitation:

Visible particulate emissions shall not exceed 5% opacity except for six minutes in any continuous sixty minute period during which opacity shall not exceed 10%.

Applicable Compliance Method:

Compliance with the visible particulate emissions limitation shall be determined in accordance with the performance testing requirements established in f)(2) below.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 3 months after issuance of the permit;

Pursuant to OAC rule 3745-105-06, the emission testing shall be conducted once every three years;

b. The emission testing shall be conducted to demonstrate compliance with:

i. The PE, CO, and visible particulate emissions limitations established in accordance with OAC rule 3745-105-02;

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

i. 40 CFR Part 60, Appendix A, Methods 1-4, Method 5, Method 9, and Method 10.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.



- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- g) Miscellaneous Requirements
- (1) None.