



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center  
122 S. Front Street  
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049  
Columbus, OH 43216-1049

08/31/01

**CERTIFIED MAIL**

**RE: Draft Title V Chapter 3745-77 permit**

13-18-00-1169  
NASA Lewis Research Center  
Peter W. McCallum  
21000 Brookpark Road  
M/S 6-4  
Cleveland, OH 44135-3191

Dear Peter W. McCallum:

You are hereby notified that the Ohio Environmental Protection Agency has prepared the enclosed draft of the Title V permit for the facility referenced above. The purpose of this draft is to solicit public comments. A public notice concerning the draft will appear in the Ohio EPA Weekly Review and the major newspaper in the county where the facility is located. Comments and/or a request for a public hearing from the public and any affected parties will be accepted by Cleveland Division of Air Pollution Control within 30 days of the date of publication in the newspaper. You will be notified in writing if a public hearing is scheduled.

A decision on processing the Title V permit will be made after consideration of written public comments and oral testimony (if a public hearing is conducted). After the comment period, you will be provided with a Preliminary Proposed Title V permit and an opportunity to comment prior to the Proposed Title V permit submittal to USEPA.

**If you have any questions or comments concerning this draft Title V permit, please contact Cleveland Division of Air Pollution Control.**

Very truly yours,

Thomas G. Rigo, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: USEPA (electronically submitted)  
File, DAPC PMU  
Cleveland Division of Air Pollution Control  
Pennsylvania



State of Ohio Environmental Protection Agency

DRAFT TITLE V PERMIT

Issue Date: 08/31/01

Effective Date: To be entered upon final issuance

Expiration Date: To be entered upon final issuance

This document constitutes issuance of a Title V permit for Facility ID: 13-18-00-1169 to:
NASA Lewis Research Center
21000 Brookpark Road
Cleveland, OH 44135-3191

Emissions Unit ID (Company ID)/Emissions Unit Activity Description

Table with 3 columns: Emissions Unit ID (Company ID), Emissions Unit Activity Description, and Emissions Unit Activity Description. Rows include units like B003 (BOILER03-B012), P012 (CELL11A-B035), P904 (CELLCE5B2-B005), etc.

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Cleveland Division of Air Pollution Control
1925 St. Clair

Cleveland, OH 44114  
(216) 664-2324

OHIO ENVIRONMENTAL PROTECTION AGENCY

---

Christopher Jones  
Director

## PART I - GENERAL TERMS AND CONDITIONS

### A. State and Federally Enforceable Section

#### 1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. These quarterly written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six months and OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations except malfunctions, which shall be reported in accordance with OAC rule 3745-15-06. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.) See B.8 below if no deviations occurred during the quarter.
  - iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to

the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, recordkeeping, and reporting requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

## **2. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports submitted pursuant to OAC rule 3745-15-06 shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of deviations caused by malfunctions or upsets.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **3. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

## **4. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

## **5. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

## **6. General Requirements**

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

## **7. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

## **8. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

## **9. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

## 10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
- c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

## 11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

## 12. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

- ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
  - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the appropriate Ohio EPA District Office or local air agency in the following manner and with the following content:
- i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
  - ii. Compliance certifications shall include the following:
    - (a) An identification of each term or condition of this permit that is the basis of the certification.
    - (b) The permittee's current compliance status.
    - (c) Whether compliance was continuous or intermittent.
    - (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
    - (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
  - iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

### **13. Permit Shield**

- a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but

excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

- b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

#### **14. Operational Flexibility**

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

#### **15. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

#### **16. Off Permit Changes**

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition;
- b. The permittee provides contemporaneous written notice of the change to the director and the administrator, except that no such notice shall be required for changes that qualify as insignificant emission levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change;

- c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F);
- d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes; and
- e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For further clarification, the permittee can refer to Engineering Guide #63 that is available in their STARSHIP software package.)

## **17. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

## **18. Insignificant Activity**

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.

## **B. State Only Enforceable Section**

### **1. Permit to Install Requirement**

Prior to the “installation” or “modification” of any “air contaminant source,” as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

### **2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

### **3. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

### **4. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with

this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**8. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

## **Part II - Specific Facility Terms and Conditions**

### **A. State and Federally Enforceable Section**

1. All asbestos renovation and demolition activities conducted at this facility shall be performed in accordance with the applicable requirements specified in 40 CFR Part 61 and OAC Chapter 3745-20.
2. This facility is subject to the applicable requirements specified in OAC Chapter 3745-25. In accordance with Ohio EPA Engineering Guide #64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.

### **B. State Only Enforceable Section**

- 1.a The following insignificant emissions units are located at this facility:

B007 - space heating boiler;  
B008 - space heating boiler;  
B009 - space heating boiler;  
B010 - space heating boiler;  
B012 - space heating boiler;  
B016 - space heating boiler;  
B017 - space heating boiler;  
B018 - make-up air heater;  
B019 - space heating boiler;  
G001 - gasoline fuel storage and dispensing;  
G901 - gasoline fuel storage and dispensing;  
G902 - gasoline fuel storage and dispensing;  
K001 - painting operation;  
K002 - painting operation;  
K003 - painting operation;  
K004 - painting, Plasma spray booth;  
L002 - degreasing of small parts;  
P002 - jet engine testing;  
P003 - jet engine testing;  
P007 - research vacuum chamber;  
P010 - PSL air drier;  
P013 - engine testing;  
P902 - jet engine testing;  
T001 - fuel storage and dispensing;  
T002 - fuel storage and dispensing;  
T003 - fuel storage and dispensing;  
T004 - fuel storage and dispensing;  
T005 - fuel storage and dispensing;  
T006 - fuel storage and dispensing;  
T007 - fuel storage and dispensing;  
T008 - fuel storage and dispensing;  
T010 - fuel storage and dispensing;

**B. State Only Enforceable Section (continued)**

- 1.b** Z025 - steam generation boiler;
- Z102 - space heating boiler;
- Z104 - space heating boiler;
- Z105 - space heating boiler;
- Z106 - space heating boiler;
- Z107 - space heating boiler;
- Z108 - space heating boiler;
- Z109 - space heating boiler;
- Z110 - space heating boiler;
- Z111 - space heating boiler;
- Z112 - space heating boiler;
- Z113 - space heating boiler;
- Z114 - space heating boiler;
- Z115 - space heating boiler;
- Z116 - preheat air for research purposes;
- Z117 - space heating boiler;
- Z118 - space heating boiler;
- Z119 - space heating boiler;
- Z121 - high-temperature Heater #1 for wind tunnel testing;
- Z122 - high-temperature Heater #2 for wind tunnel testing;
- Z201 - emergency electric generator;
- Z202 - emergency electric generator;
- Z203 - emergency electric generaror;
- Z204 - emergency electric generator;
- Z205 - emergency electric generator;
- Z206 - emergency electric generator;
- Z207 - emergency electric generator;
- Z208 - emergency electric generator;
- Z209 - emergency electric generator;
- Z210 - emergency electric generator;
- Z211 - emergency electric generator;
- Z212 - emergency electric generator;
- Z302 - jet engine testing;
- Z303 - jet engine testing;
- Z304 - jet engine testing;
- Z327 - auxiliary heater;
- Z328 - auxiiary heater;

**B. State Only Enforceable Section (continued)**

- 1.c Z400 - painting operation;
- Z401 - painting operation;
- Z402 - painting operation;
- Z403 - painting operation;
- Z404 - painting operation;
- Z405 - painting operation;
- Z406 - painting operation;
- Z407 - painting operation;
- Z408 - painting operation;
- Z409 - painting operation;
- Z410 - painting operation;
- Z411 - painting operation;
- Z412 - painting operation;
- Z413 - painting operation;
- Z414 - painting operation;
- Z415 - painting operation;
- Z416 - painting operation;
- Z417 - painting operation;
- Z418 - painting operation;
- Z500 - inert gas welding;
- Z501 - arc welding;
- Z502 - arc welding;
- Z503 - oxyacetylene welding;
- Z504 - arc welding;
- Z505 - arc welding;
- Z506 - arc welding;
- Z507 - oxyacetylene welding;
- Z508 - maintenance welding;
- Z509 - maintenance welding;
- Z510 - argon welding;
- Z511 - maintenance welding;
- Z512 - oxyacetylene welding;
- Z513 - TIG welding;
- Z514 - maintenance welding;
- Z515 - plasma cutting and welding;
- Z516 - maintenance welding;
- Z517 - oxyacetylene welding;
- Z518 - maintenance welding;
- Z519 - maintenance welding;
- Z520 - maintenance welding;

**B. State Only Enforceable Section (continued)**

- 1.d Z521 - arc welding;
- Z522 - oxyacetylene welding;
- Z523 - maintenance welding;
- Z524 - maintenance welding;
- Z525 - arc welding;
- Z526 - arc welding;
- Z527 - inert gas welding;
- Z528 - arc welding;
- Z529 - arc welding;
- Z530 - arc welding;
- Z531 - arc welding;
- Z532 - arc welding;
- Z533 - oxyacetylene welding;
- Z534 - arc welding;
- Z535 - oxyacetylene welding;
- Z536 - arc welding;
- Z537 - TIG welding;
- Z538 - maintenance welding;
- Z539 - maintenance welding;
- Z540 - oxyacetylene welding;
- Z541 - TIG welding;
- Z542 - maintenance welding;
- Z543 - maintenance welding;
- Z544 - inert gas welding;
- Z545 - maintenance welding;
- Z546 - oxyacetylene welding;
- Z547 - maintenance welding;
- Z548 - arc welding;
- Z549 - maintenance welding;
- Z550 - maintenance welding;
- Z551 - maintenance welding;
- Z552 - arc welding;
- Z553 - oxyacetylene welding;
- Z554 - maintenance welding;
- Z555 - maintenance welding;
- Z556 - maintenance welding;
- Z557 - arc welding;
- Z558 - oxyacetylene welding;
- Z559 - maintenance welding;
- Z560 - maintenance welding;

**B. State Only Enforceable Section (continued)**

- 1.e Z601 - fuel storage and dispensing;
- Z602 - fuel storage and dispensing;
- Z603 - fuel storage and dispensing;
- Z604 - fuel storage and dispensing;
- Z605 - fuel storage and dispensing;
- Z606 - fuel storage and dispensing;
- Z607 - fuel storage and dispensing;
- Z608 - fuel storage and dispensing;
- Z609 - fuel storage and dispensing;
- Z610 - fuel storage and dispensing;
- Z611 - fuel storage and dispensing;
- Z612 - fuel storage and dispensing;
- Z613 - fuel storage and dispensing;
- Z614 - fuel storage and dispensing;
- Z615 - fuel storage and dispensing;
- Z616 - fuel storage and dispensing;
- Z617 - fuel storage and dispensing;
- Z618 - fuel storage and dispensing;
- Z619 - fuel storage and dispensing;
- Z620 - fuel storage and dispensing;
- Z621 - fuel storage and dispensing;
- Z622 - fuel storage and dispensing;
- Z623 - fuel storage and dispensing;
- Z624 - fuel storage and dispensing;
- Z625 - fuel storage and dispensing;
- Z626 - fuel storage and dispensing;
- Z627 - fuel storage and dispensing;
- Z628 - fuel storage and dispensing;
- Z629 - fuel storage and dispensing;
- Z701 - degreasing of small parts;
- Z702 - degreasing of small parts;
- Z703 - degreasing of small parts;
- Z704 - degreasing of small parts;
- Z705 - degreasing of small parts; and
- Z706 - degreasing of small parts.

Each insignificant emissions unit at this facility shall comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** BOILER03-B012 (B003)  
**Activity Description:** Steam generation (boiler #3)

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 28.1 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

#### 2. Additional Terms and Conditions

None

#### II. Operational Restrictions

1. The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.  
  
Applicable Compliance Method:  
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.
  - 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.  
  
Applicable Compliance Method:  
When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (200 gallons/hr) and dividing by the emissions unit's rated heat input capacity (28.1 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).  
  
When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.0281 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (28.1 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.
  - 1.c Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.  
  
Applicable Compliance Method:  
When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.  
  
If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.  
  
When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** BOILER04-B012 (B004)  
**Activity Description:** Steam generation (boiler #4)

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 50.2 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-24(L)(2)	Sulfur dioxide emissions shall not exceed 1.2 lbs/mmBtu actual heat input.
		See A.I.2.a below.

##### 2. Additional Terms and Conditions

- 2.a The daily average operating rate for emissions units B004 and B005 shall not exceed the following: first quarter, 179 mmBtu/hr; second quarter, 179 mmBtu/hr; third quarter, 56 mmBtu/hr; and fourth quarter, 179 mmBtu/hr.

##### II. Operational Restrictions

1. The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

##### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### **III. Monitoring and/or Record Keeping Requirements (continued)**

2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

3. The permittee shall collect and record the following information for each day during each calendar quarter of each year for emissions units B004 and B005:
  - a. The total amount of number two fuel oil and/or natural gas burned, in gallons and/or cubic feet.
  - b. The total number of hours the emissions units were in operation.
  - c. The daily average operating rate, in mmBtu/hr. (The monthly volume-weighted heat content for the oil, from Section A.III.2 and a heat content of 1000 Btu/cu.ft. for the natural gas may be used to back calculate the daily average operating rate.)

### **IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the daily average operating rate restrictions during each calendar quarter of each year.

The deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii.

### **V. Testing Requirements**

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

## **V. Testing Requirements (continued)**

- 1.a** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

**Applicable Compliance Method:**

When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (357.4 gallons/hr) and dividing by the emissions unit's rated heat input capacity (50.2 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.0502 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (50.2 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.

- 1.b** Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

**Applicable Compliance Method:**

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

- 1.c** Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.2 lbs/mmBtu actual heat input.

**Applicable Compliance Method:**

When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.

When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

**Part III - Terms and Conditions for Emissions Units**

**Emissions Unit ID:** BOILER05-B012 (B005)  
**Activity Description:** Steam generation (boiler #5)

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 90 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-24(L)(2)	Sulfur dioxide emissions shall not exceed 1.2 lbs/mmBtu actual heat input.
		See A.I.2.a below.

**2. Additional Terms and Conditions**

- 2.a The daily average operating rate for emissions units B004 and B005 shall not exceed the following: first quarter, 179 mmBtu/hr; second quarter, 179 mmBtu/hr; third quarter, 56 mmBtu/hr; and fourth quarter, 179 mmBtu/hr.

**II. Operational Restrictions**

1. The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

**III. Monitoring and/or Record Keeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### **III. Monitoring and/or Record Keeping Requirements (continued)**

2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

3. The permittee shall collect and record the following information for each day during each calendar quarter of each year for emissions units B004 and B005:
  - a. The total amount of number two fuel oil and/or natural gas burned, in gallons and/or cubic feet.
  - b. The total number of hours the emissions units were in operation.
  - c. The daily average operating rate, in mmBtu/hr. (The monthly volume-weighted heat content for the oil, from Section A.III.2 and a heat content of 1000 Btu/cu.ft. for the natural gas may be used to back calculate the daily average operating rate.)

### **IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the daily average operating rate restrictions during each calendar quarter of each year.

The deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii.

### **V. Testing Requirements**

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

- 1.a** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

**Applicable Compliance Method:**

When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (640.7 gallons/hr) and dividing by the emissions unit's rated heat input capacity (90 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.090 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (90 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.

- 1.b** Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

**Applicable Compliance Method:**

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

- 1.c** Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.2 lbs/mmBtu actual heat input.

**Applicable Compliance Method:**

When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.

When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

## VI. Miscellaneous Requirements

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** BOILER06-B301 (B006)

**Activity Description:** Space heating (boiler #6)

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 15 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

#### 2. Additional Terms and Conditions

None

#### II. Operational Restrictions

1. The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.  
  
Applicable Compliance Method:  
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.
  - 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.  
  
Applicable Compliance Method:  
When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (105 gallons/hr) and dividing by the emissions unit's rated heat input capacity (15 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).  
  
When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.015 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (15 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.
  - 1.c Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.  
  
Applicable Compliance Method:  
When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.  
  
If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.  
  
When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** BOILER01-B012 (B014)

**Activity Description:** Steam generation (boiler #1). Replaces permit B001.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 45.4 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

##### 2. Additional Terms and Conditions

None

##### II. Operational Restrictions

- The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

##### III. Monitoring and/or Record Keeping Requirements

- For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.  
  
Applicable Compliance Method:  
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.
  - 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.  
  
Applicable Compliance Method:  
When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (323.2 gallons/hr) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).  
  
When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.0454 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.
  - 1.c Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.  
  
Applicable Compliance Method:  
When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.  
  
If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.  
  
When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** BOILER02-B012 (B015)

**Activity Description:** Steam generation (boiler #2). Replaces permit B002.

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Natural gas and number two fuel oil-fired steam boiler, having a maximum heat input capacity of 45.4 mmBtu/hr.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

#### 2. Additional Terms and Conditions

None

#### II. Operational Restrictions

1. The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of oil during a calendar month.

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.  
  
Applicable Compliance Method:  
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.
  - 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.  
  
Applicable Compliance Method:  
When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (323.2 gallons/hr) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).  
  
When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.0454 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.
  - 1.c Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.  
  
Applicable Compliance Method:  
When firing fuel oil, except as provided below, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.  
  
If the sulfur content of each shipment of oil received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of oil during the calendar month.  
  
When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.  
  
If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT05-B085 (B022)

**Activity Description:** Wind tunnel air heating

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 500 mmBtu/hr Bellmouth natural gas heater (wind tunnel air heating).	OAC rule 3745-31-05(A)(3) (PTI # 13-3179)	Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.
		Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
		Carbon monoxide emissions shall not exceed 20 lbs/hr.
		Nitrogen oxides emissions shall not exceed 275 lbs/hr.
	OAC rule 3745-17-07(A)	See A.II.2 below. The emission limitations specified by this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-10(B)(1)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-31-05(A)(3).
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

##### 2. Additional Terms and Conditions

- 2.a The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 13-3179.

##### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

## II. Operational Restrictions (continued)

2. The maximum annual operating hours for this emissions unit shall not exceed 120 hours, based upon a rolling, 12-month summation of the operating hours.

## III. Monitoring and/or Record Keeping Requirements

1. 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 emissions unit.
2. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the operating hours for each month; and
  - b. the rolling, 12-month summation of the operating hours.

## IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation.

The deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii.

## V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, if required.

- 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.50 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (500 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

- 1.c Emission Limitation:  
Carbon monoxide emissions shall not exceed 20 lbs/hr.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 190 lbs/mm cu. ft. by the emissions unit's maximum hourly natural gas burning capacity (.50 mm cu.ft./hr) and dividing by the emissions unit's rated heat input capacity (500 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1(7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

## **V. Testing Requirements (continued)**

- 1.d** Emission Limitation:  
Nitrogen oxides emissions shall not exceed 275 lbs/hr.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 84 lbs/mm cu. ft. by the emissions unit's maximum hourly natural gas burning capacity (.50 mm cu.ft./hr) and dividing by the emissions unit's rated heat input capacity (500 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT22-B039 (B023)  
**Activity Description:** Heat air for wind tunnel testing

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 31.86 mmBtu/hr Supersonic natural gas heater (wind tunnel air heating).	OAC rule 3745-31-05(A)(3) (PTI # 13-3436)	Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.
		Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
		Carbon monoxide emissions shall not exceed 1.12 lbs/hr.
		Nitrogen oxides emissions shall not exceed 4.46 lbs/hr.
	OAC rule 3745-17-07(A)	The emission limitations specified by this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-10(B)(1)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-31-05(A)(3).
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

#### 2. Additional Terms and Conditions

- 2.a The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 13-3436.

### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements

1. 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 emissions unit.

### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, if required.

- 1.b Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.03186 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (31.86 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

- 1.c Emission Limitation:  
Carbon monoxide emissions shall not exceed 1.12 lbs/hr.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 100 lbs/mm cu. ft. by the emissions unit's maximum hourly natural gas burning capacity (.03186 mm cu.ft./hr) and dividing by the emissions unit's rated heat input capacity (31.86 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1(7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

- 1.d Emission Limitation:  
Nitrogen oxides emissions shall not exceed 4.46 lbs/hr.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 84 lbs/mm cu. ft. by the emissions unit's maximum hourly natural gas burning capacity (.03186 mm cu.ft./hr) and dividing by the emissions unit's rated heat input capacity (31.86 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

### VI. Miscellaneous Requirements

**None**

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT25-B099 (B024)  
**Activity Description:** Combustion air preheater

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 180 mmBtu/hr natural gas heater (wind tunnel air heating).	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

#### 2. Additional Terms and Conditions

None

#### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. 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 emissions unit.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:
  - 1.a Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:  
 Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

**V. Testing Requirements (continued)**

- 1.b** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.18 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (180 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT26-B124 (B025)

**Activity Description:** Auxiliary natural gas heater #1 for PSL

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 60 mmBtu/hr natural gas heater (wind tunnel air heating).	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

#### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

#### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. 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 emissions unit.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

**V. Testing Requirements (continued)**

- 1.a** Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

- 1.b** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.06 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (60 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT27-B124 (B026)

**Activity Description:** Auxiliary natural gas heater #2 for PSL

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 60 mmBtu/hr natural gas heater (wind tunnel air heating).	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

##### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

##### II. Operational Restrictions

- The permittee shall burn only natural gas in this emissions unit.

##### III. Monitoring and/or Record Keeping Requirements

- 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 emissions unit.

##### IV. Reporting Requirements

- The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

##### V. Testing Requirements

- Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

## **V. Testing Requirements (continued)**

- 1.a** Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

- 1.b** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.06 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (60 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT01-B057 (P001)  
**Activity Description:** Drying beds

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Drying beds with natural gas burners having a total maximum heat input of 160 mmBtu/hr (indirect heat transfer).	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

##### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

##### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.

##### III. Monitoring and/or Record Keeping Requirements

1. 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 emissions unit.

##### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

##### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

## **V. Testing Requirements (continued)**

- 1.a** Emission Limitation:  
Particulate emissions shall not exceed .020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 lbs of particulates/mm cu. ft. by the emissions unit's maximum hourly natural gas firing capacity (.16 mm cu. ft./hr) and dividing by the emissions unit's rated heat input capacity (160 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

- 1.b** Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1), if required.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL06-B024 (P011)

**Activity Description:** Jet engine testing. Replaces permit P006.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels, controlled with a thermal incinerator.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

- 1.** Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Cleveland Division of Air Pollution Control.

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL11A-B035 (P012)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL23-B035 (P014)  
**Activity Description:** Combustion research

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLSW21-B038 (P015)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL1B-B102 (P016)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL01-B034 (P017)  
**Activity Description:** Atmospheric burner rigs

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

- 1.** Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Cleveland Division of Air Pollution Control.

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL01-B145 (P018)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

- 1.** Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Cleveland Division of Air Pollution Control.

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL21-B035 (P019)  
**Activity Description:** Engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL01-B085 (P020)  
**Activity Description:** Wind tunnel engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL2A-B102 (P021)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL04-B125 (P023)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL03-B125 (P024)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** HEAT02-B088 (P901)  
**Activity Description:** Drying beds. Part of permit P001.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 240 mmBtu/hr natural gas burner (drying bed).	OAC rule 3745-17-07 (A)  OAC 3745-17-10 (B)(1)	20% opacity, as a six minute average, except as provided by rule.  0.020 lb of particulate emissions per mmBtu actual heat input.

##### 2. Additional Terms and Conditions

None

##### II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit

##### III. Monitoring and/or Record Keeping Requirements

1. 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 emission unit.

##### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emission unit. Each report shall be submitted within 30 days after the deviation occurs.

##### V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation -  
0.020 lb of particulate / mmBtu actual heat input

Applicable Compliance Method -

For the use of natural gas, compliance shall be based upon multiplying the maximum hourly gas burning capacity of the emissions unit (240,000 cu.ft/hr) by the AP-42 emission factor for natural gas (7.6 lbs/ MMcu.ft) and dividing by the maximum hourly heat input capacity of the emissions unit (240 mmBtu/hr).

**V. Testing Requirements (continued)**

**1.b** Emission Limitation:  
20% opacity, as a six minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLCE5B1-B005 (P903)

**Activity Description:** Jet engine testing. Part of permit P002.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLCE5B2-B005 (P904)

**Activity Description:** Jet engine testing. Part of permit P002.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLCE9B-A-B005 (P905)  
**Activity Description:** Jet engine testing. Part of permit P002.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLCE9B-B-B005 (P906)

**Activity Description:** Jet engine testing. Part of permit P002.

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELLCPRM-B038 (P907)  
**Activity Description:** Preheater for jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 68.2 mmBtu/hr preheater for jet engine testing using only commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels), with indirect heat transfer.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed .22 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

##### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

#### II. Operational Restrictions

1. The permittee shall burn only commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels) in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements (continued)

2. For each shipment of jet fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of jet fuel during a calendar month.

The permittee shall collect or require the jet fuel supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha or distillate-based jet fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:  
Particulate emissions shall not exceed .22 lb/mmBtu of actual heat input.

**Applicable Compliance Method:**

Compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (540 gallons/hr) and dividing by the emissions unit's rated heat input capacity (68.2 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

- 1.b Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

**Applicable Compliance Method:**

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

## **V. Testing Requirements (continued)**

- 1.c** Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

Applicable Compliance Method:

Compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of jet fuel received during a calendar month meets the limitation.

If the sulfur content of each shipment of jet fuel received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of jet fuel during the calendar month.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL01-B124 (P908)  
**Activity Description:** Preheater for jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 137.3 mmBtu/hr preheater for jet engine testing using only commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels), with indirect heat transfer.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed .18 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

##### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

#### II. Operational Restrictions

1. The permittee shall burn only commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels) in this emissions unit.

#### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than commercially available naphtha and distillate-based jet fuels (i.e., no experimental jet fuels), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements (continued)

2. For each shipment of jet fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of jet fuel during a calendar month.

The permittee shall collect or require the jet fuel supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha or distillate-based jet fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:  
Particulate emissions shall not exceed .18 lb/mmBtu of actual heat input.

**Applicable Compliance Method:**

Compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (1087 gallons/hr) and dividing by the emissions unit's rated heat input capacity (137.3 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

- 1.b Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

**Applicable Compliance Method:**

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

## **V. Testing Requirements (continued)**

- 1.c** Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

Applicable Compliance Method:

Compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of jet fuel received during a calendar month meets the limitation.

If the sulfur content of each shipment of jet fuel received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of jet fuel during the calendar month.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

## Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL02-B124 (P909)  
**Activity Description:** Preheater for jet engine testing

### A. State and Federally Enforceable Section

#### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
A 137.3 mmBtu/hr preheater for jet engine testing using only commercially available naptha and distillate-based jet fuels (i.e., no experimental jet fuels), with indirect heat transfer.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed .18 lb/mmBtu of actual heat input.
	OAC rule 3745-18-06(D)	Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	None, see A.I.2 below.

#### 2. Additional Terms and Conditions

- 2.a The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

### II. Operational Restrictions

1. The permittee shall burn only commercially available naptha and distillate-based jet fuels (i.e., no experimental jet fuels) in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than commercially available naptha and distillate-based jet fuels (i.e., no experimental jet fuels), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

### III. Monitoring and/or Record Keeping Requirements (continued)

2. For each shipment of jet fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) Also, if necessary, the permittee shall maintain monthly records of the calculated sulfur dioxide emission rate based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all shipments of jet fuel during a calendar month.

The permittee shall collect or require the jet fuel supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the appropriate Ohio EPA District Office or local air agency.

### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha or distillate-based jet fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall notify the Director (Cleveland Air Pollution Control) in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon a volume-weighted average of the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Director (Cleveland Air Pollution Control) within 45 days after the deviation occurs.

### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:  
Particulate emissions shall not exceed .18 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (1087 gallons/hr) and dividing by the emissions unit's rated heat input capacity (137.3 mmBtu/hr). This emission factor is specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

- 1.b Emission Limitation:  
Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1), if required.

## **V. Testing Requirements (continued)**

- 1.c** Emission Limitation:  
Sulfur dioxide emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

Applicable Compliance Method:

Compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of jet fuel received during a calendar month meets the limitation.

If the sulfur content of each shipment of jet fuel received during a calendar month does not comply with the allowable emission limitation on an "as-received" basis, compliance with the allowable sulfur dioxide emission limitation may be based upon a volume-weighted average of the calculated sulfur dioxide emission rates for all of the shipments of jet fuel during the calendar month.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

## **VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

### Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** CELL2B-B102 (P919)  
**Activity Description:** Jet engine testing

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels.	OAC rule 3745-17-11(B)	None, see A.I.2.a below.
	OAC rule 3745-17-07(A)	None, see A.I.2.b below.
	OAC rule 3745-18-06(E)	See A.I.2.c below.
	OAC rule 3745-21-08(B)	None, see A.I.2.d below.
	OAC rule 3745-23-06(B)	None, see A.I.2.d below.

##### 2. Additional Terms and Conditions

- 2.a The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- 2.c The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

**2. Additional Terms and Conditions (continued)**

- 2.d** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively.

**II. Operational Restrictions**

**None**

**III. Monitoring and/or Record Keeping Requirements**

**None**

**IV. Reporting Requirements**

**None**

**V. Testing Requirements**

**None**

**VI. Miscellaneous Requirements**

**None**

**B. State Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
---	---	--

**2. Additional Terms and Conditions**

None

**II. Operational Restrictions**

None

**III. Monitoring and/or Record Keeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

\*\*\*\*\*

**THIS IS THE LAST PAGE OF THE PERMIT**

\*\*\*\*\*