Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

3/9/2011

Certified Mail

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Manuel Dominguez
NASA John H. Glenn Research Center - Lewis Field
21000 Brookpark Road
M/S 6-4
Brook Park, OH 44135-3191

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1318001169
Permit Number: P0106967
Permit Type: Initial Installation
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

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

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Cleveland Division of Air Quality. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern

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

Cc: U.S. EPA
CDAQ; Pennsylvania; Canada

Response to Comments

Response to comments for: Permit-To-Install

Facility ID:	1318001169
Facility Name:	NASA John H. Glenn Research Center - Lewis Field
Facility Description:	Research and development center.
Facility Address:	21000 Brookpark Road Cleveland, OH 44135-3191 Cuyahoga County
Permit #:	P0106967, Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Plain Dealer on 01/29/2011. The comment period ended on 02/28/2011.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: **None**
    a. Comment: **None**
    b. Response: **None**
2. Topic: **None**
    a. Comment: **None**
    b. Response: **None**

Ohio | Environmental Protection Agency

FINAL

Division of Air Pollution Control
Permit-to-Install
for
NASA John H. Glenn Research Center - Lewis Field

Facility ID:	1318001169
Permit Number:	P0106967
Permit Type:	Initial Installation
Issued:	3/9/2011
Effective:	3/9/2011

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install
for
NASA John H. Glenn Research Center - Lewis Field

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Authorization

Facility ID: 1318001169
Facility Description: Research and development center.
Application Number(s): A0039714
Permit Number: P0106967
Permit Description: Initial installation of a 41.97 mmBtu/hr natural gas/#2 fuel oil (back-up fuel source) fired boiler equipped with low NOx burners
Permit Type: Initial Installation
Permit Fee: $400.00
Issue Date: 3/9/2011
Effective Date: 3/9/2011

This document constitutes issuance to:

NASA John H. Glenn Research Center - Lewis Field
21000 Brookpark Road
Cleveland, OH 44135-3191

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

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

Authorization (continued)

Permit Number: P0106967
Permit Description: Initial installation of a 41.97 mmBtu/hr natural gas/#2 fuel oil (back-up fuel source) fired boiler equipped with low NOx burners

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

Emissions Unit ID:	**B038**
Company Equipment ID:	Boiler #3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A.2.a), Severability Clause

(2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements

(3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements

(4) Standard Term and Condition A.9., Reporting Requirements

(5) Standard Term and Condition A.10., Applicability

(6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install

(7) Standard Term and Condition A.14., Public Disclosure

(8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(9) Standard Term and Condition A.16., Fees

(10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

a) 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.

b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. 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 re-issuance, or modification.

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, 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 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.

4. Monitoring and Related Record Keeping 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:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) 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, 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.

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:

(1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Cleveland Division of Air Quality.

(2) 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 made to the Cleveland Division of Air Quality. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Cleveland Division of Air Quality every six months, by January 31 and July 31 of each year for the previous six calendar months. 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.

(4) This permit is for an emissions unit located at a Title V facility. 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.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

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, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Cleveland Division of Air Quality 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 shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this 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.

c) 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:

(1) 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.

(2) 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 ORC section 3704.08.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) 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.

d) The permittee shall submit progress reports to the Cleveland Division of Air Quality 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:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) 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.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. 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.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Cleveland Division of Air Quality.

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 state-only required 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 Cleveland Division of Air Quality. 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 (i.e., postmarked) quarterly, 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.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

11. Construction of New Sources(s) and Authorization to Install

a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as “permanently shut down” in Ohio EPA’s “Air Services” along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All

records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.

b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. 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. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the “Owner/Contact Change” functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. 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.

19. 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.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

C. Emissions Unit Terms and Conditions

1. B038, Boiler #3

Operations, Property and/or Equipment Description:

41.97 mmBtu/hr natural gas/#2 fuel oil (back-up fuel source) fired boiler equipped with low NOx burners and flue gas recirculation

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

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

a. None.

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

a. See b)(1)c., c)(3), d)(2), e)(5), and f)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	When burning natural gas: Nitrogen oxides (NOx) emissions shall not exceed 1.34 lb/hr and 5.87 tons per year (TPY). Particulate emissions (PE) shall not exceed 0.32 lb/hr and 1.40 TPY. Organic Compound (OC) emissions shall not exceed 0.46 lb/hr and 2.01 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.23 lb/hr and 1.01 TPY. When burning No. 2 Fuel Oil: NOx emissions shall not exceed 5.96

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		lb/hr. PE shall not exceed 0.6 lb/hr. CO emissions shall not exceed 1.5 lb/hr. Visible particulate emissions from any stack shall not exceed 20% opacity, as a six-minute average The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A), 3745-17-10(B), OAC rule 3745-31-05(D), and 40 CFR Part 60, Subpart Dc. See b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.
c.	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	See b)(2)d. and c)(3)
d.	ORC 3704.03(T)	When burning natural gas: Carbon monoxide (CO) emissions shall not exceed 0.08 lb CO/mmBtu. When burning No. 2 Fuel Oil: SO2 emissions shall not exceed 0.5 lb SO2/mmBtu
e.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to 40 CFR Part 60 Subpart Dc.
f.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/mmBtu
g.	OAC rule 3745-18-06(D)	When burning No. 2 fuel oil, the emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60 Subpart Dc.
h.	OAC rule 3745-110-03(A)	See d)(3)
i.	40 CFR Part 60 Subpart Dc	SO_2 emissions shall not exceed 0.50 lb of SO_2 / mmBtu when burning No. 2 fuel oil. Visible particulate emissions from any stack shall not exceed 20% opacity, as a six-minute average, except for one 6-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		minute period per hour of not more than 27% opacity.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001 in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes. Such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, OC, VOC, or NOx emissions while (burning natural gas) from this air contaminant source since the uncontrolled potential to emit for PE, OC, VOC, or NOx emissions is less than 10 tons per year, and the calculated annual emission rate for PE, CO and NOx (while burning No. 2 fuel oil) is less than 10 tons per year taking into account the federally enforceable annual usage restriction of 580,000 gallons.

d. When burning No. 2 fuel oil, the emissions from this unit as a 12-month rolling summation, shall not exceed the following:

NOx	5.8 TPY
CO	1.45 TPY
PE	0.58 TPY (includes both PM_{10} and $PM_{2.5}$); and
SO_2	12.35 TPY

e. The quality of the oil burned in this emissions unit shall meet the following specifications on an "as received " basis:

i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.5 pounds sulfur dioxide/mmBtu actual heat input; and

ii. greater than 140,000 Btu/gallon of oil.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or No. 2 fuel oil in this emissions unit.

(2) The quality of No. 2 fuel oil received for burning in this emissions unit shall have a combination of sulfur content and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 lb/mmBtu of actual heat input and the sulfur content limitation for No. 2 fuel oil of less than or equal to 0.3 per cent sulfur.

(3) The maximum annual No. 2 fuel oil usage rate for this emissions unit shall not exceed 580,000 gallons based upon a rolling, 12-month summation of the gallons consumed.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the No. 2 fuel oil usage levels specified in the following table:

Month	Maximum Allowable Cumulative Usage (gallons)
1	145,000
1-2	290,000
1-3	435,000
1-4	580,000
1-5	580,000
1-6	580,000
1-7	580,000
1-8	580,000
1-9	580,000

1-10	580,000
1-11	580,000
1-12	580,000

After the first 12 calendar months of operation or the first 12 months following issuance of this permit, compliance with the annual No. 2 fuel oil usage limitation shall be based upon a rolling, 12-month summation of the usage rates.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and 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 lb/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emissions unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/MMBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as ASTM methods D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and

Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.

c. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

(2) The permittee shall maintain monthly records of the following information:

a. the total number of gallons of No. 2 fuel oil used in this boiler for each month;

b. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the gallons of No. 2 fuel oil used; and

c. also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative gallons of No. 2 fuel oil burned for each calendar month.

(3) The owner or operator of a small boiler must annually perform a tune-up and maintain, in a permanently bound log book, or other format approved in writing by the director the following information:

a. the date of the last tune-up;

b. the name, title and affiliation of the person who performed the tune-up and made any adjustments; and

c. any other information which the Ohio Environmental Protection Agency may require as a condition of approval of any permit for the boiler.

e) Reporting Requirements

(1) Pursuant to the NSPS, the permittee is required to report the following information at the appropriate times (if the information has not already been reported):

a. construction date (no later than 30 days after such date);

b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

c. actual start-up date (within 15 days after such date); and,

d. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to the Cleveland Division of Air Quality (CDAQ) and to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P.O. Box 163669
Columbus, Ohio 43216-3669

(2) The permittee shall notify the CDAQ in writing of any fuel burned in this emissions unit other than natural gas or No. 2 fuel oil.

(3) The permittee shall notify the CDAQ in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the record keeping requirements from d)(1) above.

(4) The notifications identified in e)(2) and e)(3) shall include a copy of such record and shall be sent to the CDAQ within 45 days after the deviation occurs.

(5) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. any exceedance of the allowable No. 2 fuel oil usage rate; and

b. any exceedance of the allowable 0.3 weight percent of sulfur for No. 2 fuel oil.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

(6) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

From Natural Gas Combustion

a. <u>Emission Limitation</u>:
NOx: 1.34 lb/hr and 5.87 TPY
PE: 0.32 lb/hr and 1.40 TPY
OC: 0.46 lb/hr and 2.01 TPY
VOC: 0.23 lb/hr and 1.01 TPY

<u>Applicable Compliance Methods</u>:
Compliance for each short term limit shall be based upon multiplying the maximum heat input (41.97mmBtu/hr) by the appropriate AP-42 emission factor for each pollutant multiplied by the heating value of natural gas.

NOx – 32 lb NOx/mmscf (LNB & flue gas recirculation AP-42 Table 1.4-1)
PE - 7.6 lb PM/ mmscf (AP-42 Table 1.4-2)
OC - 11 lb OC/mmscf (AP-42 Table 1.4-2)
VOC – 5.5 lb OC/mmscf (AP-42 Table 1.4-2)
Natural Gas heating value - scf/1000 Btu

Compliance with each annual limit shall be determined by multiplying the amount natural burned annually, by the appropriate AP-42 emission factor for each pollutant and dividing by 2000 lb/ton.

From No. 2 Fuel Oil Combustion

b. Emission Limitation:
SO_2: 12.35 TPY
PE: 0.6 lb/hr and 0.58 TPY
CO: 1.5 lb/hr and 1.45 TPY
NOx: 5.96 lb/hr and 5.8 TPY

Applicable Compliance Methods:
Compliance with each short term limit shall be based upon multiplying the maximum gallons of No. 2 fuel oil used per hour by the appropriate AP-42 emission factor for each pollutant:

Sulfur Dioxide (SO_2) - 142 * S/1000 gallons (S = % sulfur content (AP-42 Table 1.3-1))
Particulate Matter (PM) – 2 lb PM/1000 gallons (AP-42 Table 1.3-1)
Carbon Monoxide (CO) – 5 lb CO/ 1000 gallons (AP-42 Table 1.3-1)
Nitrogen Oxides (NOx) – 20 lb NOx/1000 gallons (AP-42 Table 1.3-1)

Compliance with each annual limit shall be determined by multiplying the amount (in gallons) of No. 2 fuel oil burned annually, by the appropriate AP-42 emission factor for each pollutant and dividing by 2000 lb/ton.

c. Emission Limitation:
When burning natural gas, CO emissions shall not exceed 0.08 lb/mmBtu.

Applicable Compliance Methods:
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.

d. Emission Limitation:
When burning No. 2 fuel oil, SO2 emissions shall not exceed 0.5 lb SO2/mmBtu

Applicable Compliance Method:
Continuous compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

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.

Sulfur dioxide emissions from liquid fuel samples shall be calculated as follows:

$ER = [(1 \times 10^{6}) / H] \times D \times S \times 1.974$

where:

ER = the emission rate in pounds of sulfur dioxide per MMBtu;
H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and
S = the decimal fraction of sulfur in the liquid fuel.

e. Emission Limitation:
Particulate emissions shall not exceed 0.020 lb/mmBtu.

Applicable Compliance Methods:
If required, the permittee shall demonstrate compliance with the lb/mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1- 5.

f. Emission Limitation:
Visible emissions shall not exceed 20% opacity as a six-minute average, and except for one 6-minute period per hour of not more than 27% opacity except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Reference Method 9.

g) Miscellaneous Requirements

(1) Potential to Emit (PTE) calculations from natural gas combustion:

a. Nitrogen Oxides (NOx) - with low NOx burners LNB:
41.97 mmBtu/hr * 32 lb NOx/ mmscf * 1 scf/1000Btu = 1.34 lb NOx/hr
1.34 lb NOx/hr * 8760hr/year * 1 ton/2000lb = 5.87 TPY NOx

b. Particulate Matter (PM):
41.97 mmBtu/hr * 7.6 lb PM/mmscf * 1 scf/1000Btu = 0.32 lb PM/hr
0.32 lb PM/hr * 8760 hr/yr * 1 ton/2000lb = 1.40 TPY PM

c. Organic Compounds (OC):
41.97 mmBtu/hr * 11 lb OC/mmscf * 1 scf/1000Btu = 0.46 lb OC/hr
0.46 lb OC/hr * 8760 hr/year * 1 ton/2000lb = 2.01 TPY OC

d. Volatile Organic Compounds (VOC):
41.97 mmBtu/hr * 5.5 lb VOC/mmscf * 1 scf/1000Btu = 0.23 lb VOC/hr
0.23 lb VOC/hr * 8760 hr/year * 1 ton/2000 lb = 1.01 TPY VOC

(2) Potential to Emit (PTE) calculations from No. 2 fuel oil combustion:

a. Carbon Monoxide (CO):
5 lb CO/1000 gal * 580,000 gal/yr * 1 ton/2000 lb = 1.45 TPY CO

b. Particulate Emissions (PE):
2 lb PM/ 1000 gal * 580,000 gal/yr * 1 ton/2000 lb = 0.58 TPY PM

c. Sulfur Dioxide (SO_2):
Emission factors from AP – 42 142 * S (S = % sulfur content) - (Table 1.3-1)

Sulfur content (S) = 0.3
142 * 0.3 = 42.6 lb SO_2/1000 gal
42.6 lb SO_2/1000 gal * 580,000 gal/yr * 1 ton/2000 lb = 12.35 TPY SO_2