



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

2/4/2016

Timothy Ansell
Washington Energy Facility
Duke Energy Washington, LLC
859 Ohio 83
Beverly, OH 45715-1329

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0684000212
Permit Number: P0119625
Permit Type: OAC Chapter 3745-31 Modification
County: Washington

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

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

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA
Ohio EPA-SEDO; Pennsylvania; West Virginia



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Washington Energy Facility**

Facility ID:	0684000212
Permit Number:	P0119625
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	2/4/2016
Effective:	2/4/2016



Division of Air Pollution Control
Permit-to-Install
for
Washington Energy Facility

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Final Permit-to-Install
Washington Energy Facility
Permit Number: P0119625
Facility ID: 0684000212
Effective Date: 2/4/2016

Authorization

Facility ID: 0684000212
Facility Description: Natural gas fired combined cycle power plant.
Application Number(s): A0054255
Permit Number: P0119625
Permit Description: Chapter 31 modification permit for two existing combustion turbines; involves the replacement of components in the turbines to improve heat rate and increase electrical output (Advanced Gas Path (AGP) upgrade)
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$2,000.00
Issue Date: 2/4/2016
Effective Date: 2/4/2016

This document constitutes issuance to:

Washington Energy Facility
859 Ohio 83
Beverly, OH 45715-1329

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

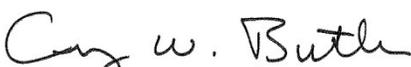
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office
2195 Front Street
Logan, OH 43138
(740)385-8501

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


Craig W. Butler
Director



Final Permit-to-Install
Washington Energy Facility
Permit Number: P0119625
Facility ID: 0684000212
Effective Date:2/4/2016

Authorization (continued)

Permit Number: P0119625

Permit Description: Chapter 31 modification permit for two existing combustion turbines; involves the replacement of components in the turbines to improve heat rate and increase electrical output (Advanced Gas Path (AGP) upgrade)

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

Group Name: Combustion Turbines

Emissions Unit ID:	P001
Company Equipment ID:	CT #1
Superseded Permit Number:	P0110193
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	CT #2
Superseded Permit Number:	P0110193
General Permit Category andType:	Not Applicable



Final Permit-to-Install
Washington Energy Facility
Permit Number: P0119625
Facility ID: 0684000212
Effective Date:2/4/2016

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) 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 Ohio EPA DAPC, Southeast District Office.

- (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 Ohio EPA DAPC, Southeast District Office. 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 to the Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

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.

- 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:
- (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.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office.
- 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 Ohio EPA DAPC, Southeast District Office. 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, 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) not exempt from the requirement to obtain a Permit-to-Install.

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 permittee 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 "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director 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.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- 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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" 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 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.



Final Permit-to-Install
Washington Energy Facility
Permit Number: P0119625
Facility ID: 0684000212
Effective Date: 2/4/2016

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.
2. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart KKKK: P001 and P002. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District Office or local air agency.
3. The permittee shall ensure that any CAIR NO_x, SO₂, or NO_x ozone season units complies with the requirements of OAC 3745-109, which includes submitting timely permit applications. The permittee shall ensure that the affected emissions units comply with those requirements as outlined in the permit application submitted as required by OAC rules 3745-109-03, 109-10 and 109-16 for the affected emissions units. The permittee shall also comply with any subsequent federally mandated programs that may replace the CAIR program affecting electric generating facilities.
4. Clean Air Interstate Rule – OAC Chapter 3745-109.

P001 – Combined cycle unit consisting of a nominally-rated 207 MW GE 7FA natural gas-fired, dry low-NO_x (DLN) combustion turbine and a heat recovery steam generator (HRSG) equipped with natural gas-fired duct burners (supplemental firing) nominally rated at 587 MMBtu/hr controlled by selective catalytic reduction (SCR) used to generate electricity.

P002 – Combined cycle unit consisting of a nominally-rated 207 MW GE 7FA natural gas-fired, dry low-NO_x (DLN) combustion turbine and a heat recovery steam generator (HRSG) equipped with natural gas-fired duct burners (supplemental firing) nominally rated at 587 MMBtu/hr controlled by selective catalytic reduction (SCR) used to generate electricity.

Note: Ohio EPA DAPC has completed rule amendments for OAC Chapter 3745-14, specifically, OAC rule 3745-14-01 and OAC rule 3745-14-06, which facilitated the transition of the affected units from OAC Chapter 3745-14 into the federal Clean Air Interstate Rule (CAIR) program which began with the 2009 control periods. This began the process of “sunsetting” the parts of OAC Chapter 3745-14 which were no longer needed as a result of Ohio’s CAIR rules (OAC Chapter 3745-109).

On April 29th, 2014, the United States Supreme Court upheld EPA’s Cross –State Air Pollution Rule (CSAPR) commonly known as the “Transport Rule” and reversed the 2012 decision by the U.S. Court of Appeals for the District of Columbia invalidating the rules. At this time, CAIR remains in place and no immediate action from States or affected sources is expected. The CAIR allowances for affected units and requirements of the CAIR rule will continue pending further guidance from USEPA on implementing CAIR.



Final Permit-to-Install
Washington Energy Facility
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C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Combustion Turbines: P001, P002

EU ID	Operations, Property and/or Equipment Description
P001	Combined cycle unit consisting of a nominally-rated 207 MW GE 7FA natural gas-fired, dry low-NO _x (DLN) combustion turbine and a heat recovery steam generator (HRSG) equipped with natural gas-fired duct burners (supplemental firing) nominally rated at 587 MMBtu/hr controlled by selective catalytic reduction (SCR) used to generate electricity; Chapter 31 modification to increase capacity of the combustion turbine to 2,262 MMBtu/hr without duct burner firing; supersedes PTI P0110193 issued on July 23, 2013
P002	Combined cycle unit consisting of a nominally-rated 207 MW GE 7FA natural gas-fired, dry low-NO _x (DLN) combustion turbine and a heat recovery steam generator (HRSG) equipped with natural gas-fired duct burners (supplemental firing) nominally rated at 587 MMBtu/hr controlled by selective catalytic reduction (SCR) used to generate electricity; Chapter 31 modification to increase capacity of the combustion turbine to 2,262 MMBtu/hr without duct burner firing; supersedes PTI P0110193 issued on July 23, 2013

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) b)(1)d., d)(16) – d)(19) and e)(10)
- 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.	40 CFR 52.21 and OAC rules 3745-31-10 through 3745-31-20	<p>EMISSION LIMITS WITHOUT DUCT BURNER FIRING</p> <p>Nitrogen oxides (NO_x) emissions shall not exceed 3.0 ppmvd at 15% oxygen (O₂) based on a 3-hour block averaging period and 25.0 lbs/hr.</p> <p>Particulate emissions (PE) and emissions of particulate matter with a diameter less than 10 microns (PM₁₀) shall not exceed 19.0 lbs/hr.</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 1.52 lbs/hr.</p> <p>Carbon monoxide (CO) emissions shall not exceed 8 ppmvd at 15% O₂ based on</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>a 24-hour block averaging period and 43.0 lbs/hr.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 3.0 lbs/hr.</p> <p>Sulfuric acid (H₂SO₄) emissions shall not exceed 0.23 lb/hr.</p> <p>Visible PE emissions from any stack shall not exceed 10% opacity as a 6-minute average.</p> <p>EMISSION LIMITS WITH DUCT BURNER FIRING</p> <p>NO_x emissions shall not exceed 3.0 ppmvd at 15% oxygen based on a 3-hour block averaging period and 31.5 lbs/hr.</p> <p>PE/PM₁₀ emissions shall not exceed 23.4 lbs/hr.</p> <p>SO₂ emissions shall not exceed 1.71 lbs/hr.</p> <p>CO emissions shall not exceed 8 ppmvd at 15% O₂ based on a 24-hour block averaging period and 45.9 lbs/hr.</p> <p>VOC emissions shall not exceed 7.3 lbs/hr.</p> <p>H₂SO₄ emissions shall not exceed 0.26 lb/hr.</p> <p>Visible PE from any stack shall not exceed 10% opacity as a 6-minute average.</p> <p>NO_x emissions shall not exceed 157.5 tons per rolling, 12-month period, including start-up and shutdown emissions.</p> <p>SO₂ emissions shall not exceed 7.5 tons per rolling, 12-month period.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PE/PM₁₀ emissions shall not exceed 102.5 tons per rolling, 12-month period.</p> <p>CO emissions during steady-state operation (Mode 6) shall not exceed 201.0 tons per rolling, 12-month period (excludes start-up and shutdown emissions).</p> <p>CO emissions shall not exceed 453.7 tons per rolling, 12-month period, including start-up and shutdown emissions.</p> <p>VOC emissions shall not exceed 63.1 tons per rolling, 12-month period, including start-up and shutdown emissions.</p> <p>H₂SO₄ emissions shall not exceed 1.1 tons per rolling, 12-month period.</p> <p>See b)(2)a. and c)(1) below.</p>
b.	ORC 3704.03(T) and OAC rule 3745-31-05(A)(3)	<p>The emissions limitations for NO_x, CO, VOC and PE/PM₁₀ required by this rule are equivalent to the emissions limitations for NO_x, CO, VOC and PE/PM₁₀ established pursuant to OAC rules 3745-31-10 through 3745-31-20.</p> <p>Ammonia (NH₃) emissions shall not exceed 11.54 tons per month averaged over a twelve-month rolling period.</p>
c.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p>The emissions limitations for SO₂ and H₂SO₄ required by this rule are equivalent to the emissions limitations for SO₂ and H₂SO₄ established pursuant to OAC rules 3745-31-10 through 3745-31-20.</p> <p>Formaldehyde emissions shall not exceed 0.3 ton per month averaged over a twelve-month rolling period.</p> <p>See b)(2)b. below.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO ₂ , H ₂ SO ₄ , and formaldehyde emissions from this air contaminant source since the potential to emit of SO ₂ , H ₂ SO ₄ , and formaldehyde is less than 10 tons/year. See b)(2)c. below.
e.	OAC rule 3745-17-07(A)	The emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
f.	OAC rules 3745-17-10 (HRSG duct burners) and 3745-17-11(B)(4) (Turbine)	The PE limitations specified by these rules are less stringent than the limitations established for PE pursuant to OAC rules 3745-31-10 through 3745-31-20.
g.	OAC rule 3745-18-06(F)	Exempt pursuant to OAC rule 3745-18-06(A) since only natural gas fuel is burned in this emissions unit.
h.	40 CFR Part 75 and OAC Chapter 3745-103	See b)(2)d. below.
i.	OAC Chapter 3745-109	See Section B.3. and B.4.
j.	OAC rule 3745-110-03(E)(1)(d)(i) (Turbine)	See b)(2)e. below.
k.	OAC rule 3745-110-03(D) (HRSG duct burners)	See b)(2)f. below.
l.	40 CFR Part 60, Subpart KKKK (40 CFR 60.4300 – 60.4420) [In accordance with 40 CFR 60.4300 and 60.4305(a), this emissions unit is a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel which commenced construction, modification, or reconstruction after February 18, 2005 subject to the emissions limitations/control measures specified in this section.]	NO _x emissions from new, modified or reconstructed turbines firing natural gas with heat input capacities greater than 850 MMBtu/hr shall not exceed 15 ppm at 15% O ₂ or 54 ng/J of useful output (0.43 lb/MWh). [60.4320(a) and Table 1 of 40 CFR Part 60, Subpart KKKK] SO ₂ emissions from the turbine must not exceed 0.90 lb/MWh of gross output, or, fuels burned in the turbine must not contain sulfur in concentrations which would result in potential sulfur emissions in excess of 0.060 lb SO ₂ / MMBtu heat input. [60.4330(a)] See b)(2)g. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
m.	40 CFR 60.1 – 60.19	General Provisions

(2) Additional Terms and Conditions

- a. The permittee performed a Best Available Control Technology (BACT) review for NO_x, SO₂, CO, PM₁₀, H₂SO₄, and VOC in the initial PTI 06-06167, issued 1/18/2001. This permit modification did not trigger PSD, so a new BACT review was not necessary. The emission limitations based on the BACT requirements are listed under 40 CFR 52.21 and OAC rules 3745-31-10 through 3745-31-20 above. The following determinations were made for each pollutant:
 - i. As part of the Best Available Control Technology (BACT) determination for NO_x, the permittee shall install and maintain dry low NO_x burners, and a selective catalytic reduction (SCR) system on this emissions unit. Operation of these control systems shall reduce NO_x emissions to the limitations specified in b)(1)a.
 - ii. As part of the BACT determination for CO, the permittee shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer to ensure compliance with the CO limitations specified in b)(1)a.
 - iii. As part of the BACT determination for PM/PM₁₀, SO₂ and H₂SO₄, the permittee shall only use natural gas (as specified in c)(1)) in this emissions unit.
 - iv. As part of the BACT determination for VOC, the permittee shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer.
- b. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- d. If the permittee is subject to the requirements of OAC chapter 103 and 40 CFR Parts 72 and 75 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.

- e. This emissions unit is subject to New Source Performance Standard (NSPS) Subpart KKKK. As provided in OAC rule 3745-110-02(A)(2), the emissions limitation for NO_x in NSPS Subpart KKKK for the combustion turbine was determined to be more stringent than the requirements for NO_x in OAC Chapter 3745-110-03(E)(1)(d)(i). Therefore, this emissions unit shall comply with NSPS Subpart KKKK for NO_x in lieu of the requirements of OAC Chapter 3745-110-03(E)(1)(d)(i) for the combustion turbine.
- f. The requirements of OAC rule 3745-110-03(D) for very large boilers do not apply to the HRSG duct burners because the definition of industrial boiler does not include boilers that serve electrical generating units and cogeneration facilities.
- g. Only heat input to the combustion turbine should be included when determining whether or not NSPS Subpart KKKK is applicable to your turbine. Any additional heat input to associated heat recovery steam generators (HRSG) or duct burners should not be included when determining your peak heat input. However, this subpart does apply to emissions from any associated HRSG and duct burners.
- h. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system), designed to ensure continuous valid and representative readings of NO_x (and CO₂ or O₂) emissions in units of the applicable standard(s). The fuel flow monitor/meter shall be maintained as required in Part 75, Appendix D. Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

- i. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system), designed to ensure continuous valid and representative readings of CO and CO₂ or O₂ emissions in units of the applicable standard(s). The fuel flow monitor/meter shall be maintained as required in Part

75, Appendix D. Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system) must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system) in accordance with the frequencies required for monitoring systems subject to 40 CFR 60, or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; however, the quarterly cylinder gas audit and relative accuracy audit frequency requirements may be adjusted to coincide with linearity checks completed for continuous emissions monitoring systems subject to 40 CFR Part 75, Appendix B requirements.

c) Operational Restrictions

- (1) The permittee shall burn only pipeline quality natural gas with a maximum sulfur content not exceed 0.5 grains per 100 standard cubic feet in this emissions unit.
- (2) Startup shall be defined as the period between when the combustion turbine is initially started until the combustion turbine achieves combustion operational Mode 6. Shutdown shall be defined as the period beginning when the combustion turbine leaves operational Mode 6 and ending when combustion has ceased. Mode 6 is defined by the manufacturer as the low emissions mode during which all 6 of the burner nozzles are in use, burning a lean premixed gas for steady-state operation (i.e., in compliance with the NO_x and CO lbs/hr emission limitations listed in b)(1) above). The continuous emission monitoring system will indicate and record the combustion turbine operational mode, including when the emissions unit is shut down and when operating in start-up and shutdown modes. This system will also be used to demonstrate compliance with the NO_x and CO emissions limitations during steady-state operation (Mode 6) and startups/shutdowns.

Startups shall not exceed 250 minutes in duration and shutdowns shall not exceed 120 minutes in duration. The total of all start-ups and shutdowns shall be limited to 260 cycles (each cycle consists of one start-up and one shutdown) per year.

Each startup and shutdown shall be limited to the following:

<i>Pollutant</i>	<i>Maximum Emission Rate (lbs/hr per turbine)</i>
NO _x	400
CO	1,658
VOC	94

Compliance with the above CO and NO_x lbs/hr startup and shutdown emission limitations shall be demonstrated using the continuous emissions monitoring system based on a 1-hour block average. Compliance with the VOC lbs/hr startup and shutdown emission limitation shall be demonstrated through the record keeping requirements specified in d)(1) of this permit.

- (3) Except during periods of startup, the SCR system for this emissions unit shall be in operation at all times, including during the shutdown of the unit.
- (4) In accordance with good engineering practices, the SCR unit shall be operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee. The permittee shall maintain on site a copy of the operation and maintenance manual, as provided by the manufacturer.
- (5) The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subpart KKKK, including the following:

60.4333(a)	Operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.
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d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the natural gas usage rate (in standard cubic feet);
 - b. the hours of operation of the combustion turbine;
 - c. the hours of operation of the duct burners;
 - d. the number of start-ups, and the duration, in minutes, of each start-up;
 - e. the number of shutdowns, and the duration, in minutes, of each shutdown;
 - f. the total number of start-up/shutdown cycles;
 - g. the NO_x emissions, in tons, for each start-up/shutdown cycle based on the data collected and maintained in the DAHS, including data generated pursuant to the approved data substitution protocol;
 - h. The CO emissions, in tons, for each start-up/shutdown cycle based on the data collected and maintained in the DAHS, including data generated pursuant to the approved data substitution protocol;
 - i. the VOC emissions, in tons, for each start-up/shutdown cycle, based on the emission factor of 94 pounds per hour;

- j. the total NO_x emissions during steady-state operation (Mode 6), in tons;
- k. the total CO emissions during steady-state operation (Mode 6), in tons;
- l. the total CO emissions, in tons, including start-up/shutdown emissions;
- m. the total VOC emissions, in tons, including start-up/shutdown emissions;
- n. the total SO₂, PM/PM₁₀, NH₃, formaldehyde, and H₂SO₄ emissions, in pounds;
- o. the total NH₃ and formaldehyde emissions, in tons;
- p. the rolling, 12-month summation of the NO_x emissions, in tons, including start-up/shutdown emissions;
- q. the rolling, 12-month summation of the steady-state (Mode 6) CO, in tons;
- r. the rolling, 12-month summation of the total CO emissions, in tons, including start-up/shutdown emissions;
- s. the rolling, 12-month summation of the VOC emissions, in tons, including start-up/shutdown emissions; and
- t. the rolling, 12-month summation of the SO₂, PM/PM₁₀, and H₂SO₄ emissions, in tons.

This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the emissions upon issuance of this permit.

- (2) For a period of five years following resumption of regular operations after the change authorized by this permit, or for a period of ten years following resumption of regular operations after the change authorized by this permit if the NSR project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit, the permittee shall calculate and maintain a record of annual emissions, in tons per year on a calendar year basis, for EUs P001 and P002 combined. The purpose of this record is to demonstrate that actual emissions from these emissions units, combined, have not exceeded the baseline actual emissions, as defined in OAC rule 3745-31-01(O) plus the demand growth exclusion, as defined in OAC rule 3745-31-01(GGGGG)(3), by the significance levels, as defined in OAC rule 3745-31-01(VVVVV) as effective 5/25/14. The following are the baseline actual emissions and the demand growth exclusions for EUs P001 and P002, combined, per the permittee's application:

<u>Pollutant</u>	<u>Baseline Actual Emissions</u>	<u>Demand Growth Exclusion</u>
NO _x	166.30	189.12
SO ₂	7.88	11.42
PM	22.88	18.94

PM ₁₀	18.82	23.00
CO	37.00	93.10
VOC	115.00	14.22

- (3) The permittee shall maintain on site the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 3; the accuracy requirements of Performance Specification 6; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The permittee shall document that the fuel flow monitor/meter meets 40 CFR 75 certification requirements prior to the performance specification test, and shall demonstrate how the pound per hour emissions of NO_x is being calculated stoichiometrically. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.
- (4) The permittee shall operate and maintain equipment to continuously monitor and record NO_x and CO₂ or O₂ emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and/or Part 75.
- (5) The permittee shall maintain records of all data obtained by the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) including, but not limited to:
 - a. emissions of NO_x in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
 - b. emissions of NO_x in pounds per hour and in units of the applicable standard(s) in the appropriate averaging period;
 - c. the percent CO₂ or O₂ with each cycle time of the analyzer, with no resolution less than one data point per minute required;
 - d. results of quarterly cylinder gas audits or linearity checks;
 - e. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
 - f. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
 - g. hours of operation of the emissions unit, continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system), and control equipment;

- h. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system);
- i. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system); as well as,
- j. the reason (if known) and the corrective actions taken (if any) for each such event in d)(5)h. and i

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

- (6) The permittee may operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of NO_x, in pounds per hour, as an alternative to conducting Specification 6. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.
- (7) The permittee shall maintain on site the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system) has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 3 and 4 or 4a (as appropriate), and the accuracy requirements of Specification 6. The permittee shall document that the fuel flow monitor/meter meets 40 CFR 75 certification requirements prior to the performance specification test, and shall demonstrate how the pound per hour emissions of CO (and CO₂ or O₂) is being calculated stoichiometrically. The letter(s)/document(s) of certification under Part 60 shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.
- (8) The permittee shall operate and maintain equipment to continuously monitor and record CO and CO₂ or O₂ emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Parts 60 and/or Part 75.
- (9) The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to:
 - a. emissions of CO in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;

- b. emissions of CO in pounds per hour and in units of the applicable standard(s) in the appropriate averaging period;
- c. the percent CO₂ or O₂ with each cycle time of the analyzer, with no resolution less than one data point per minute required;
- d. results of quarterly cylinder gas audits;
- e. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- f. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- g. hours of operation of the emissions unit, continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system), and control equipment;
- h. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system);
- i. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system); as well as,
- j. the reason (if known) and the corrective actions taken (if any) for each such event in d)(9)h. and i.

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

- (10) The permittee may operate and maintain equipment to continuously monitor and record the fuel flow rate in order to stoichiometrically calculate emissions of CO in pounds per hour, as an alternative to conducting Specification 6. Fuel heat content values for each fuel burned, as applied in the stoichiometric calculations, shall also be recorded. The permittee shall maintain records of data obtained by the fuel flow monitor/meter, including the dates and results of each calibration check and the magnitude of calibration adjustments; periods of downtime and malfunction of the fuel flow monitor/meter; as well as, the reason (if known) and the corrective actions taken (if any) for each such event.
- (11) The permittee shall collect, record, and maintain measurements, data, records, and reports required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required by Part 75.

- (12) The permittee shall operate and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when the emissions unit is in operation. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 75. If the fuel flow monitoring and/or recording equipment is (are) not in service when the emissions unit is in operation, the permittee shall comply with the approved data substitution protocol.

Fuel flow data that is substituted in accordance with 40 CFR Part 75, Appendix D, is not to be used when verifying compliance with the hourly NO_x and CO pounds per hour emission limits. Hours in which fuel flow is substituted should be included as NO_x and CO monitoring system downtime.

- (13) The permittee shall monitor the sulfur content and gross caloric value of the fuel being fired in the combustion turbine and duct burners. The BACT requirements for SO₂ emissions in b)(1)(a) are based on a factor of 0.0006 lb SO₂/MMBtu, which is the default emission factor for pipeline quality natural gas in 40 CFR Part 75, Appendix D. Therefore, the permittee must document that the fuel combusted is actually pipeline natural gas using procedures as outlined in Part 75 Appendix D 2.3.1.4 to be able to utilize the 0.0006lb SO₂/MMBtu emission factor since it is more stringent than the sulfur content limit in 60.4330, after modification of each emissions unit. The permittee shall use the following information to make the required demonstration:
- a. the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for natural gas is 0.5 grain of sulfur or less per 100 standard cubic feet and has potential sulfur emissions of less than 0.060 lb SO₂/MMBtu of heat input; or
 - b. representative fuel sampling data which show that the sulfur content of the fuel does not exceed 0.0006 lb SO₂/MMBtu of heat input. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

Per 40 CFR Part 75, Appendix D section 2.3.1.4, the permittee has demonstrated that the gaseous fuel is pipeline natural gas. Therefore, ongoing sampling of the fuel's sulfur content is required annually and whenever the fuel supply sources change. Sampling and analysis of the fuel gross calorific value is required monthly.

- (14) The permittee shall determine the hourly heat input rate to the combustion turbine and duct burner, in MMBtu, from the fuel flow rate as determined in d)(12) and gross calorific value as determined in d)(13). The heat input rate shall be calculated in accordance with the procedures in section 5 of 40 CFR Part 75, Appendix F.
- (15) For each day during which the permittee burns a fuel other than natural gas with a maximum sulfur content of 0.5 grains per 100 standard cubic feet, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (16) The permit-to-install application for increases in emissions from emissions units P001 and P002 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air

Contaminant Statute”, ORC 3704.03(F), was applied to these emissions units for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled “Review of New Sources of Air Toxic Emissions, Option A”, as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) “Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices”; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) “Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices”; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., “24” hours per day and “7” days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/24 \times 5/7 = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminant emissions increase of 1 or more tons/year:

Toxic Contaminant: NH₃

TLV (mg/m³): 17.41

Maximum Hourly Emission Rate (lbs/hr): 7.16

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.22

MAGLC (ug/m3): 414.6

The permittee, has demonstrated that increases in emissions of NH₃, from emissions units P001 and P002 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (17) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
 - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (18) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):

- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (19) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- (20) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subpart KKKK, including the following sections:

60.4340 and 60.4345	Install, calibrate, maintain and operate a NO _x continuous emissions monitoring system that meets the requirements of 60.4345(a) through (e).
60.4350	Use data from continuous emission monitoring equipment to identify excess NO _x emissions as specified in 60.4350(a) through (f) and (h).
60.4360	Except as provided in 60.4365, monitor the total sulfur content of the fuel being fired in the turbine, except as provided in §60.4365. Determine the sulfur content of the fuel using total sulfur methods described in §60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see §60.17), which measure the major sulfur compounds, may be used.
60.4365	If the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO ₂ /J (0.060 lb SO ₂ /MMBtu) heat

	<p>input for units located in continental areas, monitoring of the total sulfur content of the fuel combusted in the turbine pursuant to 60.4360 is not required if:</p> <p>The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specify that the maximum total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet and has potential sulfur emissions of less than 26 ng SO₂/J (0.060 lb SO₂/MMBtu); or</p> <p>Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO₂/J (0.060 lb SO₂/MMBtu) of heat input. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.</p> <p>Note: the total sulfur content limitation in 60.4365(a)(1) and the SO₂ emissions limit in 60.4365(a)(2) are less stringent than the requirements specified in d)(13) to meet the BACT limits for SO₂ emissions in b)(1)a.</p>
60.4370(b) and (c)	<p>If you elect not to demonstrate sulfur content using options in 60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day, unless a custom schedule is approved by the administrator pursuant to 60.4370(c).</p>

e) Reporting Requirements

- (1) 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.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas with a maximum sulfur content of the natural gas of 0.5 grains per 100 standard cubic feet was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurred.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all records which show that the start-up duration exceeded 250 minutes;
 - b. all records which show that the shutdown duration exceeded 120 minutes;
 - c. all records which show that the total number of start-up/shutdown cycles exceeded 260;

- d. all exceedances of the NO_x, CO, and/or VOC start-up limitations; and
- e. all exceedances of the rolling, 12-month NO_x, CO, VOC, SO₂, H₂SO₄ and/or PM/PM₁₀ emission limitations.

These quarterly reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) As required for an existing electric utility steam generating unit, the permittee shall submit a report to the director, within sixty days after the end of each year during which records must be generated under d)(2), of the emissions units' annual emissions during the year that preceded submission of the report.
- (5) For a period of 10 years following resumption of regular operations after the change authorized by this permit, the permittee shall submit a report if the annual emissions of NO_x, SO₂, PM, PM₁₀, CO and VOC from EUs P001 and P002, combined, in tons per year on a calendar year basis, exceed the baseline actual emissions, as defined in OAC rule 3745-31-01(O) plus the demand growth exclusion, as defined in OAC rule 3745-31-01(GGGGG)(3), as documented and maintained in d)(2), by a significant amount for that pollutant, as defined in OAC rule 3745-31-01(VVVVV). The report shall contain the following:
 - a. The name, address and telephone number of the major stationary source;
 - b. The annual emissions; and
 - c. Any other information that the permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

The report shall be submitted within 60 days after the end of each year during which an exceedance occurs.

- (6) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system):
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NO_x emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

- b. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of continuous CO₂ or O₂ monitoring system downtime and malfunction while the emissions unit was on line.
- c. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous NO_x and CO₂ or O₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total NO_x emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) while the emissions unit was in operation;
 - viii. results and date of quarterly cylinder gas audits or linearity checks;
 - ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x and CO₂ or O₂ monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system), emissions unit, and/or control equipment;
 - xii. the date, time, and duration of any downtime** of the continuous NO_x monitoring system (including the associated continuous CO₂ or O₂ monitoring system) and/or control equipment while the emissions unit was in operation; and

- xiii. the reason (if known) and the corrective actions taken (if any) for each event in e)(6)c.xi. and xii.

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (7) If using the fuel flow rate to stoichiometrically calculate the pound per hour emissions of NO_x in place of Specification 6 requirements, the permittee shall submit quarterly reports, to the appropriate Ohio EPA District Office or local air agency, that document the date, time, and duration of each malfunction and/or period of downtime of the continuous fuel flow monitoring system, while the emissions unit was in operation, and the reason (if known) and the corrective actions taken (if any) for each such event. If there was no downtime or malfunction of the continuous fuel flow monitoring system during any calendar quarter, the report shall be submitted so stating it. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year.
- (8) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system):
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of CO emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-21, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
 - b. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of continuous CO₂ or O₂ monitoring system downtime and malfunction while the emissions unit was on line.

- c. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
- i. the facility name and address;
 - ii. the manufacturer and model number of the continuous CO and CO₂ or O₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total CO emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system) while the emissions unit was in operation;
 - viii. results and dates of quarterly cylinder gas audits;
 - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous CO and CO₂ or O₂ monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system), and/or emissions unit;
 - xii. the date, time, and duration of any downtime** of the continuous CO monitoring system (including the associated continuous CO₂ or O₂ monitoring system) while the emissions unit was in operation; and
 - xiii. the reason (if known) and the corrective actions taken (if any) for each event in e)(6)c.xi. and xii.

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless of whether there is an exceedance of any applicable limit

- (9) If using the fuel flow rate to stoichiometrically calculate the pound per hour emissions of CO, in place of Specification 6 requirements, the permittee shall submit quarterly reports, to the appropriate Ohio EPA District Office or local air agency, that document the date, time, and duration of each malfunction and/or period of downtime of the continuous fuel flow monitoring system, while the emissions unit was in operation, and the reason (if known) and the corrective actions taken (if any) for each such event. If there was no downtime or malfunction of the continuous fuel flow monitoring system during any calendar quarter, the report shall be submitted so stating it. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year.
- (10) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:
 - a. the original model input;
 - b. the updated model input;
 - c. the reason for the change(s) to the input parameter(s); and
 - d. a summary of the results of the updated modeling, including the input changes; and
 - e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.

- (11) The permittee shall submit notifications and reports to the appropriate Ohio EPA District office as required pursuant to 40 CFR Part 60, Subparts A and KKKK, per the following sections:

60.7(a)	Submit a written notification that contains the information in 60.7(a)(1)-(7) as applicable by the specified submittal deadlines.
60.7(b)	Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
60.7(c) and (d), 60.4375(a) and 60.4395	Submit semi-annual reports of excess emissions and monitor downtime, in accordance with §60.7(c), for each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart. The summary must be

	submitted to the Ohio EPA Southeast District Office within 30 days following the end of each 6-month period containing the information and in the format specified in 60.7(d).
60.4380(b)	For turbines using continuous emission monitoring for NO _x , periods of excess emissions and monitor downtime are defined in 60.4380(b)(1)-(3).
60.4385	If you choose the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime are defined in 60.4385.

f) Testing Requirements

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

a. Emissions Limitations:

NO_x emissions without duct burner firing shall not exceed 3.0 ppmvd at 15% O₂ based on a 3-hour block averaging period and 25.0 lbs/hr.

NO_x emissions with duct burner firing shall not exceed 3.0 ppmvd at 15% O₂ based on a 3-hour block averaging period and 31.5 lbs/hr.

NO_x emissions from new, modified or reconstructed turbines firing natural gas with heat input capacities greater than 850 MMBtu/hr shall not exceed 15 ppm at 15% O₂ calculated on a 30-day rolling average or 54 ng/J of useful output (0.43 lb/MWh).

NO_x emissions shall not exceed 157.5 tons per rolling, 12-month period, including start-up and shutdown emissions.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration and the lbs/hr emissions limitations shall be demonstrated through emissions testing performed as described in f)(2) below.

Ongoing compliance with the short-term NO_x emissions limitations shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

Ongoing compliance with the associated CO₂ or O₂ monitoring requirements contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping section of this permit; and demonstration of

compliance with the quality assurance/quality control plan, which shall meet all of the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

Compliance with the rolling, 12-month NO_x emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)p.

b. Emissions Limitations:

PE/PM₁₀ emissions without duct burner firing shall not exceed 19.0 lbs/hr.

PE/PM₁₀ emissions with duct burner firing shall not exceed 23.4 lbs/hr.

PE/PM₁₀ emissions shall not exceed 102.5 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the short-term PE/PM₁₀ emissions limitations shall be demonstrated by the testing requirements in f)(2).

Compliance with the rolling, 12-month PE/PM₁₀ emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)t.

c. Emissions Limitations:

SO₂ emissions without duct burner firing shall not exceed 1.52 lbs/hr.

SO₂ emissions with duct burner firing shall not exceed 1.71 lbs/hr.

SO₂ emissions from the turbine must not exceed 0.90 lb/MWh of gross output, or, fuels burned in the turbine must not contain sulfur in concentrations which would result in potential sulfur emissions in excess of 0.060 lb SO₂/MMBtu heat input.

SO₂ emissions shall not exceed 7.5 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the short-term SO₂ emissions limitations shall be demonstrated by the testing requirements in f)(2).

Compliance with the rolling, 12-month SO₂ emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)t.

d. Emissions Limitations:

CO emissions without duct burner firing shall not exceed 8 ppmvd at 15% O₂ based on a 24-hour block averaging period and 43.0 lbs/hr.

CO emissions with duct burner firing shall not exceed 8 ppmvd at 15% O₂ based on a 24-hour block averaging period and 45.9 lbs/hr.

CO emissions shall not exceed 201.0 tons per rolling, 12-month period during steady-state (Mode 6) operation (excludes start-up and shutdown emissions).

CO emissions shall not exceed 453.7 tons per rolling, 12-month period, including start-up and shutdown emissions.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration and the lbs/hr emissions limitations shall be demonstrated through emissions testing performed as described in f)(2) below.

Ongoing compliance with the short-term CO emission limitations shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

Ongoing compliance with these emission limitations during Mode 6 operation, as well as the annual emission limitations, including startup and shutdown emissions, shall be demonstrated based upon the CO and O₂ CEMS and the record keeping requirements specified in this permit.

Compliance with the rolling, 12-month CO emissions limitation shall be demonstrate by the recordkeeping requirement in d)(1)q. for steady-state (Mode 6) operation and d)(1)r. including start-up and shutdown emissions.

e. Emissions Limitations:

VOC emissions without duct burner firing shall not exceed 3.0 lbs/hr.

VOC emissions with duct burner firing shall not exceed 7.3 lbs/hr.

VOC emissions shall not exceed 63.1 tons per rolling, 12-month period, including startup/ shutdown emissions.

Applicable Compliance Method:

Compliance with the short-term VOC emissions limitations shall be demonstrated by the testing requirements in f)(2).

Compliance with the rolling, 12-month VOC emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)s.

f. Emissions Limitations:

H₂SO₄ emissions without duct burner firing shall not exceed 0.23 lb/hr.

H₂SO₄ emissions with duct burner firing shall not exceed 0.26 lb/hr.

H₂SO₄ emissions shall not exceed 1.1 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the lbs/hr emission limitation may be demonstrated by multiplying the emission factor of 0.00009 lb/mmBtu (extrapolated from the SO₂ emissions factor) by the maximum heat input.

If required, H₂SO₄ emissions shall be determined according to test Methods 1 - 4, and 8 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the rolling, 12-month H₂SO₄ emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)t.

g. Emissions Limitation:

Visible PE from any stack shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance with the visible PE limitation shall be demonstrated by the testing requirements in f)(2).

h. Emissions Limitation:

NH₃ emissions shall not exceed 11.54 tons per month averaged over a twelve-month rolling period.

Applicable Compliance Method:

Compliance with the tons per month NH₃ emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)o.

i. Emissions Limitation:

Formaldehyde emissions shall not exceed 0.3 ton per month averaged over a twelve-month rolling period.

Applicable Compliance Method:

Compliance with the tons per month formaldehyde emissions limitation shall be demonstrated by the recordkeeping requirement in d)(1)o.

j. Emissions Limitations:

The permittee shall burn only pipeline quality natural gas with a maximum sulfur content not exceed 0.5 grains per 100 standard cubic feet in this emissions unit.

Applicable Compliance Method:

Compliance with the fuel sulfur content limitations shall be demonstrated by the testing requirements in f)(2) and the recordkeeping requirements in d)(13).

- (2) The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with 40 CFR 60.8, 60.4405 and 60.4415 and the following requirements:
 - a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the modified facility will be operated, but not later than 180 days after initial startup of the modified unit. Subsequent SO₂ performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test) using one of the three methodologies in 60.4415(a).
 - b. The emission testing shall be conducted to demonstrate initial compliance with the NO_x and CO outlet concentrations, the lb/hr emissions limitations for NO_x, CO, VOC, and PE, visible emissions and the fuel sulfur content after modification.
 - c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

NO _x	Method 7E or 20 of 40 CFR Part 60, Appendix A
PE	Methods 1-5 of 40 CFR Part 60, Appendix A
CO	Methods 1-4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1-4 and 25A of 40 CFR Part 60, Appendix A
Visible emissions	Method 9 of 40 CFR Part 60, Appendix A
Fuel sulfur content	40 CFR 60.4415(a)

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

- d. The testing shall be conducted while the emission unit is operating at or near its maximum capacity with and without duct burner firing, unless otherwise specified or approved by Ohio EPA, Southeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emission unit operating parameters, the times(s) and date(s) of the test(s), and the person(s) who will be conducting these test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emission test(s).



- f. Personnel from Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.
- g) Miscellaneous Requirements
- (1) None.