State of Ohio Environmental Protection Agency

RE: COMBINED AIR/WASTEWATER PERMIT TO INSTALL **CERTIFIED MAIL**

Street Address: Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329 Mailing Address: Lazarus Gov. Center

LAWRENCE COUNTY
Application No: 07-00503

DATE: 12/13/2001

Duke Energy - Hanging Rock, LLC
William Campbell III
2234 Westminster Place
Charlotte, NC 282072664

Enclosed please find an Ohio EPA Permit to Install for the air/wastewater contaminant source(s) [emissions unit(s)] shown on the enclosed Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo

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

Patti L. Smith, Permit Processing Supervisor
Division of Surface Water

CC: USEPA **PCHD**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install **Issue Date: 12/13/2001**
Terms and Conditions **Effective Date: 12/13/2001**

FINAL PERMIT TO INSTALL 07-00503

Application Number: 07-00503
APS Premise Number: 0744000150
Permit Fee: **$1600**
Name of Facility: Duke Energy - Hanging Rock, LLC
Person to Contact: William Campbell III
Address: 2234 Westminster Place
Charlotte, NC 282072664

Location of proposed air contaminant source(s) [emissions unit(s)]:
U.S. Route 52
Hanging Rock, Ohio

Description of proposed emissions unit(s):
1270MW Combined Cycle Power Plant consisting of four combined cycle 172 MW natural gas fired GE 7FA turbines with four heat recovery steam generators and associated equipment.

Description of proposed wastewater disposal system:
Cooling Towers, Process Wastewater Treatment System and Sanitary Sewerage System, Hamilton Twp., Lawrence County

The Director has determined that a lowering of water quality in the Ohio River is necessary. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and appropriate intergovernmental comments. The lowering of water quality is necessary to accommodate important social or economic development in the area in which the water body is located.

The above named entity is hereby granted a Permit to Install for the above described air emissions unit(s) and wastewater sources 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 above described 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

Director

SECTION 1

APPLICABLE AIR REQUIREMENTS

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

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

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, 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:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. Quarterly written reports of (i) any deviations from federally enforceable <u>emission limitations</u>, <u>operational restrictions</u>, <u>and control device operating parameter limitations</u>, 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 appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.10 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

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

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports 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).

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

declared invalid.

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are

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

9. Compliance Requirements

a. 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:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

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

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

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

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

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

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35 , the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from 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 appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

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

4. 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.

5. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete

within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

6. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

7. 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.

8. 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).

9. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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

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

C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
NOx	492.6
CO	1118.96
SO2	211.46
PM/PM10	357.11
VOC	263.41
Ammonia	560.04
Formaldehyde	5.76
Sulfuric acid	32.28

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

1. PSD REQUIREMENTS

The source described in this Permit to Install is subject to the applicable provisions of the Prevention of Significant Deterioration (PSD) regulations as promulgated by the United States Environmental Protection Agency 40 CFR 52.21. The authority to apply and enforce the PSD regulations has been delegated to the Ohio Environmental Protection Agency. The terms and conditions of this permit and the requirements of the PSD regulations are also enforceable by the United States Environmental Protection Agency.

In accordance with 40 CFR 124.15, 124.19 and 124.20, the following shall apply: (1) the effective date of this permit shall be 30 days after the service of notice to any public commentors of the final decision to issue, modify, or revoke and re-issue the permit, unless the service notice is by mail, in which case the effective date of the permit shall be 30 days after the service of notice; and (2) if an appeal is made to the Environmental Protection Agency, the effective date of the permit is suspended until such time as the appeal is resolved of denied.

Appeals will be addressed to:

United States Environmental Protection Agency
Environmental Appeals Board
401 M. Street, SW (MC-113do)
Washington, DC 20460

2. The following emissions units (EU) are also being installed as part of this project:

EU	BACT	Emissions
(2) multiple-cell wet mechanical draft cooling towers	drift eliminators	1.45 TPY PM/PM10
(2) 500 kW diesel fired backup generators*	use of low sulfur fuel	2.55 TPY NOx 3.14 TPY CO 0.369 TPY OC 0.067 TPY SO2 0.148 TPY PM/PM10

(1) 265 Hp diesel fired fire water pump*	use of low sulfur fuel	2.05 TPY NOx 0.443 TPY CO 0.164 TPY VOC 0.024 TPY SO2 0.164 TPY PM/PM10
(5) fuel/chemical storage tanks	storage of diesel fuel or low vapor pressure material	less than 1 TPY VOC

* subject to OAC rule 3745-31-03(A)(4), restricted to no more than 500 hours per 12 month rolling period.

3. The emissions of Hazardous Air Pollutants (HAPs), as defined in Section 112(b) of the Clean Air Act, from all emissions units located at this facility combined, shall not exceed 10 tons per year for an individual HAP and 25 tons per year for any combination of HAPs, per rolling 12 month period.

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

1. The permit to install was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emission unit's exhaust system, as specified by the permittee in the permit to install application. The OEPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by the emission unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling:

Pollutant: Formaldehyde
TLV (ug/m3): 1500
Maximum Hourly Emission Rate (lb/hr): 5.68*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32.71
MAGLC (ug/m3): 36

Pollutant: Sulfuric Acid
TLV (ug/m3): 1000
Maximum Hourly Emission Rate (lb/hr): 8.8*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 8.875
MAGLC (ug/m3): 24

Pollutant: Ammonia
TLV (ug/m3): 17000
Maximum Hourly Emission Rate (lb/hr): 151.2*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 153.83
MAGLC (ug/m3): 405

Pollutant: Toluene
TLV (ug/m3): 188,000
Maximum Hourly Emission Rate (lb/hr): 1.02*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6.023
MAGLC (ug/m3): 4476

Pollutant: Xylene
TLV (ug/m3): 434,000
Maximum Hourly Emission Rate (lb/hr): 0.5*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.94
MAGLC (ug/m3): 10333

Pollutant: Acetaldehyde
TLV (ug/m3): 180,000
Maximum Hourly Emission Rate (lb/hr): 0.311*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.842
MAGLC (ug/m3): 4286

Pollutant: Hexane
TLV (ug/m3): 176,000
Maximum Hourly Emission Rate (lb/hr): 0.44*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.585
MAGLC (ug/m3): 4190

Pollutant: Zinc
TLV (ug/m3): 5000
Maximum Hourly Emission Rate (lb/hr): 0.29*
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.69
MAGLC (ug/m3): 119

* This was modeled for emissions units B001, B002, P001, P002, P003 and P004 combined.

2. Physical changes to or changes in the method of operation of the emissions unit after its

installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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 compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

3. If the permittee determines that the "Air Toxic Policy" 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
B001 - 36.6 MMBtu/hr natural gas fired boiler	40 CFR 52.21 and OAC rule 3745-31-(10) thru (20)	OAC rule 3745-31-05(A)(3)
		40 CFR 60 Subpart Dc
		OAC rule 3745-18-06(A)
		OAC rule 3745-17-10(B)(1)
		OAC rule 3745-17-07(A)
		OAC rule 3745-31-05(D)

Applicable Emissions Limitations/Control Measures	
nitrogen oxide (NOx) emissions shall not exceed: 0.035 lb/MMBtu actual heat input 1.28 lb/hr.	SO2 - 0.046 PM/PM10 - 0.46 CO - 1.69 VOC - 0.74 See A.I.2.b below.
sulfur dioxide (SO2) emissions shall not exceed: 0.001 lb/MMBtu actual heat input 0.037 lb/hr.	The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart Dc, OAC rule 3745-18-06(A), OAC 3745-17-10(B)(1), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31- (10) thru (20). See section A.I.2.a. below.
carbon monoxide (CO) emission shall not exceed: 0.037 lb/MMBtu actual heat input 1.35 lb/hr.	See section A.I.2.a. below. See section A.I.2.a. below.
volatile organic compounds (VOC) emissions shall not exceed: 0.016 lb/MMBtu actual heat input 0.59 lb/hr.	20% opacity as a six minute average, except as provided by rule. See section A.I.2.c. below. See Section A.II.2. below.
particulate(PM/PM10) emissions shall not exceed: 0.01 lb/MMBtu actual heat input 0.37 lb/hr.	
The tons per rolling 12-month period shall not exceed:	
NOx - 1.6	

2. Additional Terms and Conditions

2.a The requirements of this rule are less stringent than the requirements of 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20).

2.b Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of natural gas, low sulfur fuel and low NOx burners constitutes BACT for this emission unit. The emissions limits based on the BACT requirements are listed under 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20) above.

2.c The requirements of this rule are equivalent to the NOx, SO2, and PM/PM10 emissions per 40 CFR Part 52.21 and OAC rule 3745-31 (10) through (20).

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of the natural gas shall not exceed 2 grains per 100 cubic feet.

2. The maximum annual hours of operation of this emission unit shall not exceed 2500 hours, based upon a rolling, 12-month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Maximum Annual Cumulative hours of Operation
1	300
1-2	500
1-3	700
1-4	1000
1-5	1500
1-6	2000
1-7	2500
1-8	2500
1-9	2500
1-10	2500
1-11	2500

1-12	2500

After the first 12 calendar months of operation of this emission unit, compliance with the annual operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours.

III. Monitoring and/or Recordkeeping Requirements

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

2. The permttee shall monitor the sulfur content and gross calorific value of the fuel being fired in the emission unit, Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

3. The permittee shall maintain monthly records of the following information for each emission unit:

   a. The operating hours for the boiler.

   b. Beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the operating hours.

   Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per 100 standard cubic feet. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

3. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

4. This emissions unit is subject to the applicable provisions of Subpart Dc of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to:

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

and

Portsmouth Local Air Agency
605 Washington Street, Third Floor
Portsmouth, Ohio 45662

V. Testing Requirements

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

   a. Emission Limitation:

      0.035 lb/MMBtu NOx,
      1.28 lb/hr NOx

      Applicable Compliance Method:

      Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.035 lb/MMBtu.

      Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

      Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly emission rate by actual operating hours per year and dividing by 2000 lb/ton.

   b. Emission Limitation:

      0.001lb/MMBtu SO2,
      0.037lb/hr SO

      Applicable Compliance Method:

      Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.001 lb/MMBtu.

      Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly SO2 emission rate by actual operating hours per year and dividing by 2000 lb/ton.

c. Emission Limitation:

0.037 lb/MMBtu CO
1.35 lb/hr CO

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.037 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly CO emission rate by actual operating hours per year and dividing by 2000 lb/ton.

d. Emission Limitation:

0.016 lb/MMBtu VOC
0.59 lb/hr VOC

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.016 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly VOC emission rate by actual operating hours per year and dividing by 2000 lb/ton.

e. Emission Limitation:

0.01 lb/MMBtu PM/PM_{10}
0.37 lb/hr PM/PM_{10}

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.01 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the

lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly PM/PM_{10} emission rate by actual operating hours per year and dividing by 2000 lb/ton.

f. Emission Limitation:

The tons per rolling 12-month period shall not exceed:
NOx - 1.6
SO2 - 0.046
PM/PM10 - 0.46
CO - 1.69
VOC - 0.74

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by the record keeping required in A.III. 3. (monthly hours of operation) multiplied by the hourly allowable emission rate divided by 2000lb/ton. The monthly usage shall be added to the previous 11 months to determine the rolling 12 month total usage.

g. Emission Limitation:

Visible particulate emission shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
B001 - 36.6 MMBtu/hr natural gas fired boiler	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	
B002 - 36.6 MMBtu/hr natural gas fired boiler	40 CFR 52.21 and OAC rule 3745-31-(10) thru (20)	
		OAC rule 3745-31-05(A)(3)
		40 CFR 60 Subpart Dc
		OAC rule 3745-18-06(A)
		OAC rule 3745-17-10(B)(1)
		OAC rule 3745-17-07(A)
		OAC rule 3745-31-05(D)

Applicable Emissions Limitations/Control Measures	
	PM/PM10 - 0.46 CO - 1.69 VOC - 0.74
nitrogen oxide (NOx) emissions shall not exceed: 0.035 lb/MMBtu actual heat input 1.28 lb/hr.	See A.I.2.b. below. The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart Dc, OAC rule 3745-18-06(A), OAC 3745-17-10(B)(1), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31- (10) thru (20).
sulfur dioxide (SO2) emissions shall not exceed: 0.001 lb/MMBtu actual heat input 0.037 lb/hr.	See section A.I.2.a. below.
carbon monoxide (CO) emission shall not exceed: 0.037 lb/MMBtu actual heat input 1.35 lb/hr.	See section A.I.2.a. below. See section A.I.2.a. below.
volatile organic compounds (VOC) emissions shall not exceed: 0.016 lb/MMBtu actual heat input 0.59 lb/hr.	20% opacity as a six minute average, except as provided by rule. See section A.I.2.c. below. See section A.II.2. below.
particulate(PM/PM10) emissions shall not exceed: 0.01 lb/MMBtu actual heat input 0.37 lb/hr.	
The tons per rolling 12-month period shall not exceed: NOx - 1.6 SO2 - 0.046	

2. Additional Terms and Conditions

2.a The requirements of this rule are less stringent than the requirements of 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20).

2.b Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the use of natural gas, low sulfur fuel and low NOx burners constitutes BACT for this emission unit. The emissions limits based on the BACT requirements are listed under OAC rule 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20) above.

2.c The requirements of this rule are equivalent to the NOx, SO2, and PM/PM10 emissions per 40 CFR Part 52.21 and OAC rule 3745-31 (10) through (20).

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of the natural gas shall not exceed 2 grains per 100 cubic feet.

2. The maximum annual hours of operation of this emission unit shall not exceed 2500 hours, based upon a rolling, 12-month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Maximum Annual Cumulative hours of Operation
1	300
1-2	500
1-3	700
1-4	1000
1-5	1500
1-6	2000
1-7	2500
1-8	2500
1-9	2500
1-10	2500
1-11	2500

1-12	2500

After the first 12 calendar months of operation of this emission unit, compliance with the annual operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours.

III. Monitoring and/or Recordkeeping Requirements

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

2. The permttee shall monitor the sulfur content and gross calorific value of the fuel being fired in the emission unit, Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

3. The permittee shall maintain monthly records of the following information for each emission unit:

   a. The operating hours for the boiler.

   b. Beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the operating hours.

   Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per 100 standard cubic feet. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

3. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

4. This emissions unit is subject to the applicable provisions of Subpart Dc of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to:

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

   and

   Portsmouth Local Air Agency
   605 Washington Street, Third Floor
   Portsmouth, Ohio 45662

V. Testing Requirements

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

   a. Emission Limitation:

      0.035 lb/MMBtu NOx,
      1.28 lb/hr NOx

      Applicable Compliance Method:

      Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.035 lb/MMBtu.

      Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

      Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly emission rate by actual operating hours per year and dividing by 2000 lb/ton.

   b. Emission Limitation:

      0.001lb/MMBtu SO2,
      0.037lb/hr SO2

      Applicable Compliance Method:

      Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.001 lb/MMBtu.

      Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

      Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly SO2 emission rate by actual operating hours per year and dividing by 2000 lb/ton.

   c. Emission Limitation:

      0.037 lb/MMBtu CO

1.35 lb/hr CO

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.037 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly CO emission rate by actual operating hours per year and dividing by 2000 lb/ton.

d. Emission Limitation:

0.016 lb/MMBtu VOC
0.59 lb/hr VOC

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.016 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly VOC emission rate by actual operating hours per year and dividing by 2000 lb/ton.

e. Emission Limitation:

0.01 lb/MMBtu PM/PM_{10}
0.37 lb/hr PM/PM_{10}

Applicable Compliance Method:

Compliance with the lb/MMBtu emission limitation shall be demonstrated using the manufacturer supplied emission factor of 0.01 lb/MMBtu.

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the lb/MMBtu emission rate by the maximum heat input rate of 36.6 MMBtu/hr.

Compliance with the annual emission limitation shall be demonstrated by multiplying the hourly PM/PM_{10} emission rate by actual operating hours per year and dividing by 2000 lb/ton.

f. Emission Limitation:

The tons per rolling 12-month period shall not exceed:
NOx - 1.6
SO2 - 0.046
PM/PM10 - 0.46
CO - 1.69
VOC - 0.74

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by the record keeping required in A.III. 3. (monthly hours of operation) multiplied by the hourly allowable emission rate divided by 2000lb/ton. The monthly usage shall be added to the previous 11 months to determine the rolling 12 month total usage.

g. Emission Limitation:

Visible particulate emission shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
B002 - 36.6 MMBtu/hr natural gas fired boiler	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P001 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 1 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	40 CFR 52.21 and OAC rule 3745-31-(10) through (20)

		OAC rule 3745-17-11(B)(4) OAC rule 3745-17-07(A) 40 CFR Part 63, Subpart YYYY 40 CFR Part 75 OAC rule 3745-103
	OAC rule 3745-31-05(D) 40 CFR part 60, Subpart GG 40 CFR part 60, Subpart Da	
OAC rule 3745-31-05(A)(3)	OAC rule 3745-18-06(F)	

Applicable Emissions Limitations/Control Measures		
EMISSION LIMITS WITHOUT DUCT BURNER FIRING	1.68 lb/hr.	7.4 tpy of VOC, based on a 12 month rolling average
nitrogen oxides (NOx) emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)
NOx emissions shall not exceed 21.1 lb/hr.	NOx emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	121.2 tpy of NOx, based on a 12 month rolling average
particulate (PM/PM_{10})emissions shall not exceed 15 lb/hr.	NOx emissions shall not exceed 27.8 lb/hr.	52.82 tpy of SO2, based on a 12 month rolling average
sulfur dioxide (SO2) emission shall not exceed 11 lb/hr.	PM/PM_{10} emissions shall not exceed 23.3 lb/hr.	88.53 tpy of PM/PM_{10}, based on a 12 month rolling average
carbon monoxide (CO) emissions shall not exceed 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	SO_2 emissions shall not exceed 14.4 lb/hr.	278.0 tpy of CO, based on a 12 month rolling average
CO emissions shall not exceed 25.7 lb/hr.	CO emission s shall not exceed 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	65.1 tpy of VOC, based on a 12 month rolling average
volatile organic compounds (VOC) emissions shall not exceed 3.2 lb/hr .	CO emissions shall not exceed 50.3 lb/hr.	8.07 tpy of H2SO4, based on a 12 month rolling average
sulfuric acid (H_2SO_4) emissions shall not exceed	VOC emissions shall not exceed 20.4 lb/hr.	see A.I.2.e. below.
	H_2SO_4 emissions shall not exceed 2.2 lb/hr.	The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart GG, OAC rule 3745-18-06(F), OAC rule 3745-17-11 (B)(4), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31-(10) through (20).
	STARTUP AND SHUTDOWN EMISSIONS (also see A.II.2)	EMISSION LIMITS WITHOUT DUCT BURNER FIRING
	18.9 tpy of NOx, based on a 12 month rolling average	
	109.7 tpy of CO, based on a 12 month rolling average	

ammonia (NH3) emissions shall not exceed 28 lb/hr.	see A.I.2.a. below.
formaldehyde emissions shall not exceed 1.38 lb/hr.	see A.I.2.a. below.
EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	see A.I.2.a. below.
NH_3 emissions shall not exceed 37.8 lb/hr.	see A.I.2.d below.
formaldehyde emissions shall not exceed 1.42 lb/hr.	See A.I.2.c. below.
TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)	See A.I.2.c. below.
140.01 tpy of NH3	
1.44 tpy of formaldehyde	
Visible particulate emissions shall not exceed 10 % opacity as a six minute average.	
see A.I.2.f. below. see A.II.4. below.	
see A.I.2.b. below.	
see A.I.2.a. below.	

2. Additional Terms and Conditions

2.a The emissions limit based on this applicable rule is equivalent to or less stringent than the limit established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20).

2.b The emission limits based on this applicable rule are equivalent to or less stringent than the limits established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20). Except as provided for in the terms and condition of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.

2.c The permittee shall ensure that any effected emissions unit complies with the requirements of 40 CFR Part 75. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

2.d Upon promulgation, the permittee shall comply with the requirements in 40 CFR Part 63, YYYY, National Emission Standards for Hazardous Air Pollutants for Combustion Turbines.

2.e The permittee is required to perform a Best Available Control Technology (BACT) review for NOx, SO_2, CO, PM_{10}, H_2SO_4, and VOC. The emissions limits based on the BACT requirements are listed under 40 CFR 52.21 and OAC rule 3745-31-(10) through(20) above. The following determinations have been made for each pollutant:

PM- Burning natural gas in an efficient combustion turbine. For this permit, it is assumed that all PM emissions are PM_{10}.
NOx- Use of DLN burners and employment of SCR with a controlled rate of 3.0 ppmvd at 15% oxygen (based on a 3 hour block averaging period).
CO- Use of good combustion practices with a rate of 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) without duct firing and 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) with duct firing.
VOC- Use of efficient combustion technology in the operation of the turbine.
SO_2- Burning natural gas in an efficient combustion turbine and burning low sulfur fuel.
H_2SO_4- Burning natural gas in an efficient combustion turbine.

2.f The requirements of this rule are equivalent to the NOx, SO2 and PM/PM_{10} emissions per 40 CFR 52.21 and OAC rule 3745-31-(10) through (20).

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of

the natural gas shall not exceed 2 grains per 100 standard cubic feet.

2. Startup and Shutdown shall be defined as when the unit is running at less than 50% of electric load, but under no circumstances shall hot startups exceed 85 minutes in duration. Cold startups shall not exceed 250 minutes in duration. Startup and Shutdowns shall be limited to 260 cycles (one startup and one shutdown) per year. Shutdown emissions shall not exceed allowable emissions during normal operations since the SCR system will remain in operation during unit shutdown. Each Startup shall be limited to the following:

Pollutant	lbs/startup
NOx	145.6
CO	843.5
VOC	56.8

3. Except during periods of startup, the SCR shall be in operation at all times including periods of shutdown mode of the unit.

4. The maximum annual hours of operation of the duct burners for this emission unit shall not exceed 5,500 hours, based upon a rolling 12 month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit, the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Hours of Operation
1	800
1-2	1600
1-3	2400
1-4	3200
1-5	4000
1-6	4800
1-7	5500
1-8	5500
1-9	5500
1-10	5500
1-11	5500
1-12	5500

   After the first 12 calendar months following the startup of emission unit P001, compliance with the annual hours of operation restriction shall be based on a rolling, 12-month summation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for each emission unit:

   a. the natural gas usage rate for each month (in standard cubic feet).

   b. the hours of operation of the combustion turbine.

   c. the hours of operation of the duct burner.

   d. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the hours of operation.

   e. during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative hours of operation for each calendar month.

   f. the monthly emission rate * for NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 , in tons.

   h. beginning after the first 12 calendar months of operation, the rolling 12 month summation of NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 emissions, in tons.

   * The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM in installed.

2. The permittee shall install, certify, operate and maintain equipment to continuously monitor* and record NO_x ,CO and O2 from this emissions unit in the units established in this permit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75, or as approved by the Ohio EPA, Central Office..

   The permittee shall maintain records of all data obtained by the continuous NO_x, CO and O2 monitoring system including, but not limited to, parts per million NO_x, CO and O2 on an instantaneous (one-minute) basis, emissions of NO_x , CO and O2 in units established in this permit in the appropriate averaging period, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

   In conjunction with the operation of the NOx and CO CEMs, the permittee shall install, operate and maintain a system to monitor when the duct burners are being fired. The data measured by this system shall be compiled with the data recorded by the NOx and CO CEMs.

   * The installation and operation of systems to continuously monitor and record emissions of NOx may be performed in lieu of monitoring the nitrogen content of the fuels being fired in the turbine, as required by 40 CFR 60.334(b).

3. The permittee shall install, 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 appropriate missing data procedures specified in 40 CFR Part 75.

4. The permittee shall monitor the sulfur content and gross calorific value of the fuel being fired in the combustion turbine and duct burner. Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

5. The permittee shall determine the hourly heat input rate to the combustion turbine and duct burner from the fuel flow rate as determined in term A. III.3. and gross calorific value as determined in term A.III.4. The heat input rate shall be calculated in accordance with the procedures in section 5 of 40 CFR Part 75, Appendix F.

6. The permittee shall maintain records of the following information for each emission unit:

a. Number and duration of each startup.

b. Number and duration of each shutdown.

7. The permittee shall maintain daily records of the following information for this emission unit:

in lb/hr emission rate for NOx and CO as obtained from term A.III.2. allowed in the appropriate sections of 40 CFR Part 60.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

3. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.03(l) and 40 CFR Part 60.7 and 60.13 (h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx or CO values, as recorded by the CEMs in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOx and CO emissions for the calendar quarter (in tons).

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting any continuous NOx, CO, or O_2 monitoring system down time while the emission unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emission unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emission unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emission unit was on line shall also be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emission unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emission unit and the total operating time of the analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Portsmouth Local Air Agency within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

4. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per standard cubic foot. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

5. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2. above. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

6. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess emissions reports for this emissions unit in accordance with this permit.

7. This emission unit is subject to the applicable provisions of Subpart Da and GG of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to :

   Ohio Environmental Protection Agency

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

and

Portsmouth Local Air Agency
605 Washington Street, Third Floor
Portsmouth, Ohio 45662

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emission unit.

   b. The emission testing shall be conducted to demonstrate compliance with the NOx and CO outlet concentration, and the mass emission limitations for NOx*, CO, Formaldehyde, VOC, PM/PM10 and ammonia.

   c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NOx, Method 20 of 40 CFR Part 60, Appendix A: for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for Formaldehyde, SW-846 Method 0011or EPA Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A and for ammonia, CTM-027. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

   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 or local air agency.

   e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth Local Air Agency. 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 Portsmouth Local Air Agency's refusal to accept the results of the emission test(s).

   f. Personnel from Portsmouth Local Air Agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that

the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth Local Air Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.

* In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

2. Within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NOx, CO and O2 monitoring systems pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2,3 and 6* and/or 40 CFR Part 75, unless an extension is granted by the Ohio EPA.. Personnel from the Portsmouth Local Air Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Portsmouth Local Air Agency and the Ohio EPA, Central Office. Certification of the continuous NOx, CO and O2 monitoring systems shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of the appropriate sections of ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2, 3, 4 and 6* and/or 40 CFR Part 75.

* The permittee may use certified NOx and CO CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.

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

a. Emission Limitation:

NOx emissions shall not exceed 3.0 ppmvd at 15% Oxygen (based on 3 hr block avg.)
21.1 lb/hr without duct firing
27.8 lb/hr with duct firing
121.2 TPY based on a 12 month rolling summation, which includes 18.9 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the

CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1., and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

b. Emission Limitation:

PM/PM10 emissions shall not exceed
15 lb/hr without duct burner firing
23.3 lb/hr with duct burner firing
88.53 TPY, based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

c. Emission Limitation:

SO2 emissions shall not exceed
11 lb/hr without duct burner firing
14.4 lb/hr with duct burner firing
52.82 TPY, based on a 12 month rolling summation.

Applicable Compliance Methods:

Compliance with the lb/hr emission limitation shall be demonstrated by the recordkeeping required in A.III.1,4,5,6. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation by emission testing in accordance with approved USEPA test methods.

d. Emission Limitation:

VOC emissions shall not exceed
3.2 lb/hr without duct burner firing
20.4 lb/hr with duct burner firing
65.1 TPY based on a 12 month rolling summation, which includes 7.4 tons for startups.

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing as described in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions. The annual emissions associated with start-up and shutdown shall be determined by record keeping required in A.III.7.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

e. Emission Limitation:

CO emissions shall not exceed
6 ppmvd at 15 % Oxygen without duct burner firing (based on 24 hr block avg.)
9 ppmvd at 15 % Oxygen with duct burner firing (based on 24 hr block avg.)
25.7 lb/hr without duct burner firing
50.3 lb/hr with duct burner firing
278.0 TPY based on a 12 month rolling summation, which includes 109.7 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1, and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

f. Emission Limitation:

ammonia (NH_3) emissions shall not exceed
28 lb/hr without duct burner firing
37.8 lb/hr with duct burner firing
140.01 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.014 pound/MMBtu (supplied by permittee) by the maximum MMBtu/hr firing rate. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved US EPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

g. Emission Limitation:

Formaldehyde emission shall not exceed
1.38 lb/hr without duct burner firing
1.42 lb/hr with duct burner firing
1.44 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitations shall be demonstrated by the performance testing as described in A.V.2 below. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate, as determined by the most recent performance test that demonstrated compliance, by the actual annual hours of operation and dividing by 2000 lb/ton.

h. Emission Limitation:

Sulfuric acid (H2SO4) emissions shall not exceed
1.68 lb/hr without duct burner firing
2.2 lb/hr with duct burner firing
8.07 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.0009 lb/MMBtu (supplied by permittee) by the maximum heat input. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved USEPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of

operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

i. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 10 percent opacity as a six minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

1. In accordance with good engineering practices, the SCR unit on emissions unit P001 shall be installed, 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 & maintenance manual, as provided by the manufacturer.

2. Prior to the installation of the continuous NOx, CO and O2 monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2,3,4 and 6 for approval by the Ohio EPA, Central Office.

3. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NOx, CO, and O_2 monitoring system designed to ensure continuous valid and representative readings of NOx, CO, and O_2 emissions in units of the applicable standard. The plan shall follow the requirements of the appropriate sections of 40 CFR Part 60, Appendix F or as approved by the Ohio EPA, Central Office and 40 CFR Part 75, Appendix B. The quality assurance/ quality control plan and logbook dedicated to the continuous NOx, CO, and O_2 monitoring system must be kept on site and available for inspection during regular office hours.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P001 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 1 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P002 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 2 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	40 CFR 52.21 and OAC rule 3745-31-(10) through (20)

		40 CFR part 60, Subpart Da
		OAC rule 3745-18-06(F) OAC rule 3745-17-11(B)(4)
		OAC rule 3745-17-07(A)
		40 CFR Part 63, Subpart YYYY
		40 CFR Part 75
		OAC rule 3745-103
	OAC rule 3745-31-05(D)	
OAC rule 3745-31-05(A)(3)	40 CFR part 60, Subpart GG	

Applicable Emissions Limitations/Control Measures		
EMISSION LIMITS WITHOUT DUCT BURNER FIRING	1.68 lb/hr.	7.4 tpy of VOC, based on a 12 month rolling average
nitrogen oxides (NOx) emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)
NOx emissions shall not exceed 21.1 lb/hr.	NOx emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	121.2 tpy of NOx, based on a 12 month rolling average
particulate (PM/PM_{10}) emissions shall not exceed 15 lb/hr.	NOx emissions shall not exceed 27.8 lb/hr.	52.82 tpy of SO2, based on a 12 month rolling average
sulfur dioxide (SO2) emission shall not exceed 11 lb/hr.	PM/PM_{10} emissions shall not exceed 23.3 lb/hr.	88.53 tpy of PM/PM_{10}, based on a 12 month rolling average
carbon monoxide (CO) emissions shall not exceed 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	SO_2 emissions shall not exceed 14.4 lb/hr.	278.0 tpy of CO, based on a 12 month rolling average
CO emissions shall not exceed 25.7 lb/hr.	CO emission s shall not exceed 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	65.1 tpy of VOC, based on a 12 month rolling average
volatile organic compounds (VOC) emissions shall not exceed 3.2 lb/hr .	CO emissions shall not exceed 50.3 lb/hr.	8.07 tpy of H2SO4, based on a 12 month rolling average
sulfuric acid (H_2SO_4) emissions shall not exceed	VOC emissions shall not exceed 20.4 lb/hr.	see A.I.2.e. below.
	H_2SO_4 emissions shall not exceed 2.2 lb/hr.	The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart GG, OAC rule 3745-18-06(F), OAC rule 3745-17-11 (B)(4), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31-(13) through (20).
	STARTUP AND SHUTDOWN EMISSIONS (also see A.II.2)	EMISSION LIMITS WITHOUT DUCT BURNER FIRING
	18.9 tpy of NOx, based on a 12 month rolling average	
	109.7 tpy of CO, based on a 12 month rolling average	

ammonia (NH3) emissions shall not exceed 28 lb/hr.	see A.I.2.d below.
formaldehyde emissions shall not exceed 1.38 lb/hr.	See A.I.2.c. below.
EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	See A.I.2.c. below.
NH_3 emissions shall not exceed 37.8 lb/hr.	
formaldehyde emissions shall not exceed 1.42 lb/hr.	
TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)	
140.01 tpy of NH3	
1.44 tpy of formaldehyde	
Visible particulate emissions shall not exceed 10 % opacity as a six minute average.	
see A.I.2.f. below. see A.II.4. below.	
see A.I.2.b. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	

2. Additional Terms and Conditions

2.a The emissions limit based on this applicable rule is equivalent to or less stringent than the limit established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20).

2.b The emission limits based on this applicable rule are equivalent to or less stringent than the limits established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20). Except as provided for in the terms and condition of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.

2.c The permittee shall ensure that any effected emissions unit complies with the requirements of 40 CFR Part 75. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

2.d Upon promulgation, the permittee shall comply with the requirements in 40 CFR Part 63, YYYY, National Emission Standards for Hazardous Air Pollutants for Combustion Turbines.

2.e The permittee is required to perform a Best Available Control Technology (BACT) review for NOx, SO_2, CO, PM_{10}, H_2SO_4, and VOC. The emissions limits based on the BACT requirements are listed under 40 CFR 52.21 and OAC rule 3745-31-(13) through(20) above. The following determinations have been made for each pollutant:

PM- Burning natural gas in an efficient combustion turbine. For this permit, it is assumed that all PM emissions are PM_{10}.
NOx- Use of DLN burners and employment of SCR with a controlled rate of 3.0 ppmvd at 15% oxygen (based on a 3 hour block averaging period).
CO- Use of good combustion practices with a rate of 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) without duct firing and 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) with duct firing.
VOC- Use of efficient combustion technology in the operation of the turbine.
SO_2- Burning natural gas in an efficient combustion turbine and burning low sulfur fuel.
H_2SO_4- Burning natural gas in an efficient combustion turbine.

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of the natural gas shall not exceed 2 grains per 100 standard cubic feet.

2. Startup and Shutdown shall be defined as when the unit is running at less than 50% of electric

load, but under no circumstances shall hot startups exceed 85 minutes in duration. Cold startups shall not exceed 250 minutes in duration. Startup and Shutdowns shall be limited to 260 cycles (one startup and one shutdown) per year. Shutdown emissions shall not exceed allowable emissions during normal operations since the SCR system will remain in operation during unit shutdown. Each Startup shall be limited to the following:

Pollutant	lbs/startup
NOx	145.6
CO	843.5
VOC	56.8

3. Except during periods of startup, the SCR shall be in operation at all times including periods of shutdown mode of the unit.

4. The maximum annual hours of operation of the duct burners for this emission unit shall not exceed 5,500 hours, based upon a rolling 12 month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit, the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Hours of Operation
1	800
1-2	1600
1-3	2400
1-4	3200
1-5	4000
1-6	4800
1-7	5500
1-8	5500
1-9	5500
1-10	5500
1-11	5500
1-12	5500

   After the first 12 calendar months following the startup of emission unit P001, compliance with the annual hours of operation restriction shall be based on a rolling, 12-month summation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for each emission unit:

   a. the natural gas usage rate for each month (in standard cubic feet).

   b. the hours of operation of the combustion turbine.

   c. the hours of operation of the duct burner.

   d. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the hours of operation.

   e. during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative hours of operation for each calendar month.

   f. the monthly emission rate * for NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 , in tons.

   h. beginning after the first 12 calendar months of operation, the rolling 12 month summation of NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 emissions, in tons.

   * The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM in installed.

2. The permittee shall install, certify, operate and maintain equipment to continuously monitor* and record NO_x ,CO and O2 from this emissions unit in the units established in this permit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and 40 CFR Part 75, or as approved by the Ohio EPA, Central Office..

   The permittee shall maintain records of all data obtained by the continuous NO_x, CO and O2 monitoring system including, but not limited to, parts per million NO_x, CO and O2 on an instantaneous (one-minute) basis, emissions of NO_x , CO and O2 in units established in this permit in the appropriate averaging period, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

   In conjunction with the operation of the NOx and CO CEMs, the permittee shall install, operate and maintain a system to monitor when the duct burners are being fired. The data measured by this system shall be compiled with the data recorded by the NOx and CO CEMs.

   * The installation and operation of systems to continuously monitor and record emissions of NOx may be performed in lieu of monitoring the nitrogen content of the fuels being fired in the turbine, as required by 40 CFR 60.334(b).

3. The permittee shall install, 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 appropriate missing data procedures specified in 40 CFR Part 75.

4. The permittee shall monitor the sulfur content and gross calorific value of the fuel being fired in the combustion turbine and duct burner. Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

5. The permittee shall determine the hourly heat input rate to the combustion turbine and duct burner from the fuel flow rate as determined in term A. III.3. and gross calorific value as determined in term A.III.4. The heat input rate shall be calculated in accordance with the procedures in section 5 of 40 CFR Part 75, Appendix F.

6. The permittee shall maintain records of the following information for each emission unit:

   a. Number and duration of each startup.

   b. Number and duration of each shutdown.

7. The permittee shall maintain daily records of the following information for this emission unit:

   in lb/hr emission rate for NOx and CO as obtained from term A.III.2. allowed in the appropriate sections of 40 CFR Part 60.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

3. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.03(l) and 40 CFR Part 60.7 and 60.13 (h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx or CO values, as recorded by the CEMs in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOx and CO emissions for the calendar quarter (in tons).

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting any continuous NOx, CO, or O_2 monitoring system down time while the emission unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emission unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emission unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emission unit was on line shall also be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emission unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emission unit and the total operating time of the analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the

permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Portsmouth Local Air Agency within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

4. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per standard cubic foot. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

5. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2. above. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

6. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess emissions reports for this emissions unit in accordance with this permit.

7. This emission unit is subject to the applicable provisions of Subpart Da and GG of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to :

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

and

Portsmouth Local Air Agency
605 Washington Street, Third Floor
Portsmouth, Ohio 45662

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emission unit.

   b. The emission testing shall be conducted to demonstrate compliance with the NOx and CO outlet concentration, and the mass emission limitations for NOx*, CO, Formaldehyde, VOC, PM/PM10 and ammonia.

   c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NOx, Method 20 of 40 CFR Part 60, Appendix A: for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for Formaldehyde, SW-846 Method 0011or EPA Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A and for ammonia, CTM-027. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

   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 or local air agency.

   e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth Local Air Agency. 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 Portsmouth Local Air Agency's refusal to accept the results of the emission test(s).

   f. Personnel from Portsmouth Local Air Agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth Local Air

Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.

* In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

2. Within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NOx, CO and O2 monitoring systems pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2, 3 and 6* and/or 40 CFR Part 75, unless an extension is granted by the Ohio EPA. . Personnel from the Portsmouth Local Air Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Portsmouth Local Air Agency and the Ohio EPA, Central Office. Certification of the continuous NOx, CO and O2 monitoring systems shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of the appropriate sections of ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2, 3, 4 and 6* and/or 40 CFR Part 75.

   * The permittee may use certified NOx and CO CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.

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

   a. Emission Limitation:

      NOx emissions shall not exceed 3.0 ppmvd at 15% Oxygen (based on 3 hr block avg.)
      21.1 lb/hr without duct firing
      27.8 lb/hr with duct firing
      121.2 TPY based on a 12 month rolling summation, which includes 18.9 tons for startups.

      Applicable Compliance Method:

      Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1.

and continual compliance with those limitations shall be demonstrated by the use of the CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1, and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

b. Emission Limitation:

PM/PM10 emissions shall not exceed
15 lb/hr without duct burner firing
23.3 lb/hr with duct burner firing
88.53 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

c. Emission Limitation:

SO2 emissions shall not exceed
11 lb/hr without duct burner firing
14.4 lb/hr with duct burner firing
52.82 TPY based on a 12 month rolling summation

Applicable Compliance Methods:

Compliance with the lb/hr emission limitation shall be demonstrated by the recordkeeping required in A.III.1,4,5,6. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation by emission testing in accordance with approved USEPA test methods.

d. Emission Limitation:

VOC emissions shall not exceed

3.2 lb/hr without duct burner firing
20.4 lb/hr with duct burner firing
65.1 TPY based on a 12 month rolling summation, which includes 7.4 tons for startups.

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing as described in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions. The annual emissions associated with start-up and shutdown shall be determined by record keeping required in A.III.7.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

e. Emission Limitation:

CO emissions shall not exceed
6 ppmvd at 15 % Oxygen without duct burner firing (based on 24 hr block avg.)
9 ppmvd at 15 % Oxygen with duct burner firing (based on 24 hr block avg.)
25.7 lb/hr without duct burner firing
50.3 lb/hr with duct burner firing
278.0 TPY based on a 12 month rolling summation, which includes 109.7 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1, and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

f. Emission Limitation:

ammonia (NH_3) emissions shall not exceed
2 lb/hr without duct burner firing
37.8 lb/hr with duct burner firing
140.01 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.014 pound/MMBtu (supplied by permittee) by the maximum MMBtu/hr firing rate. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved US EPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

g. Emission Limitation:

Formaldehyde emission shall not exceed
1.38 lb/hr without duct burner firing
1.42 lb/hr with duct burner firing
1.44 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitations shall be demonstrated by the performance testing as described in A.V.2 below. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate, as determined by the most recent performance test that demonstrated compliance, by the actual annual hours of operation and dividing by 2000 lb/ton.

h. Emission Limitation:

Sulfuric acid (H2SO4) emissions shall not exceed
1.68 lb/hr without duct burner firing
2.2 lb/hr with duct burner firing
8.07 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.0009 lb/MMBtu (supplied by permittee) by the maximum heat input. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved USEPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

i. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 10 percent opacity as a six minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

1. In accordance with good engineering practices, the SCR unit on emissions unit P002 shall be installed, 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 & maintenance manual, as provided by the manufacturer.

2. Prior to the installation of the continuous NOx, CO and O2 monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2,3,4 and 6 for approval by the Ohio EPA, Central Office.

3. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NOx, CO, and O_2 monitoring system designed to ensure continuous valid and representative readings of NOx, CO, and O_2 emissions in units of the applicable standard. The plan shall follow the requirements of the appropriate sections of 40 CFR Part 60, Appendix F or as approved by the Ohio EPA, Central Office and 40 CFR Part 75, Appendix B. The quality assurance/ quality control plan and logbook dedicated to the continuous NOx, CO, and O_2 monitoring system must be kept on site and available for inspection during regular office hours.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P002 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 2 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P003 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 3 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	40 CFR 52.21 and OAC rule 3745-31-(10) through (20)

	OAC rule 3745-31-05(A)(3)	40 CFR part 60, Subpart GG
		40 CFR part 60, Subpart Da OAC rule 3745-18-06(F)
		OAC rule 3745-17-11(B)(4)
		OAC rule 3745-17-07(A)
		40 CFR Part 63, Subpart YYYY
		40 CFR Part 75
		OAC rule 3745-103
	OAC rule 3745-31-05(D)	

Applicable Emissions Limitations/Control Measures		
EMISSION LIMITS WITHOUT DUCT BURNER FIRING	1.68 lb/hr.	7.4 tpy of VOC, based on a 12 month rolling average
nitrogen oxides (NOx) emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)
NOx emissions shall not exceed 21.1 lb/hr.	NOx emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	121.2 tpy of NOx, based on a 12 month rolling average
particulate (PM/PM_{10})emissions shall not exceed 15 lb/hr.	NOx emissions shall not exceed 27.8 lb/hr.	52.82 tpy of SO2, based on a 12 month rolling average
sulfur dioxide (SO2) emission shall not exceed 11 lb/hr.	PM/PM_{10} emissions shall not exceed 23.3 lb/hr.	88.53 tpy of PM/PM_{10}, based on a 12 month rolling average
carbon monoxide (CO) emissions shall not exceed 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	SO_2 emissions shall not exceed 14.4 lb/hr.	278.0 tpy of CO, based on a 12 month rolling average
CO emissions shall not exceed 25.7 lb/hr.	CO emission s shall not exceed 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	65.1 tpy of VOC, based on a 12 month rolling average
volatile organic compounds (VOC) emissions shall not exceed 3.2 lb/hr .	CO emissions shall not exceed 50.3 lb/hr.	8.07 tpy of H2SO4, based on a 12 month rolling average
sulfuric acid (H_2SO_4) emissions shall not exceed	VOC emissions shall not exceed 20.4 lb/hr.	see A.I.2.e. below.
	H_2SO_4 emissions shall not exceed 2.2 lb/hr.	The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart GG, OAC rule 3745-18-06(F), OAC rule 3745-17-11 (B)(4), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31-(10) through (20).
	STARTUP AND SHUTDOWN EMISSIONS (also see A.II.2)	EMISSION LIMITS WITHOUT DUCT BURNER FIRING
	18.9 tpy of NOx, based on a 12 month rolling average	
	109.7 tpy of CO, based on a 12 month rolling average	

ammonia (NH3) emissions shall not exceed 28 lb/hr.	see A.I.2.d below.
formaldehyde emissions shall not exceed 1.38 lb/hr.	See A.I.2.c. below.
EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	See A.I.2.c. below.
NH_3 emissions shall not exceed 37.8 lb/hr.	
formaldehyde emissions shall not exceed 1.42 lb/hr.	
TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)	
140.01 tpy of NH3	
1.44 tpy of formaldehyde	
Visible particulate emissions shall not exceed 10 % opacity as a six minute average.	
see A.I.2.f. below. see A.II.4. below.	
see A.I.2.b. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	

2. Additional Terms and Conditions

2.a The emissions limit based on this applicable rule is equivalent to or less stringent than the limit established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20)

2.b The emission limits based on this applicable rule are equivalent to or less stringent than the limits established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20). Except as provided for in the terms and condition of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.

2.c The permittee shall ensure that any effected emissions unit complies with the requirements of 40 CFR Part 75. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

2.d Upon promulgation, the permittee shall comply with the requirements in 40 CFR Part 63, YYYY, National Emission Standards for Hazardous Air Pollutants for Combustion Turbines.

2.e The permittee is required to perform a Best Available Control Technology (BACT) review for NOx, SO_2, CO, PM_{10}, H_2SO_4, and VOC. The emissions limits based on the BACT requirements are listed under 40 CFR 52.21 and OAC rule 3745-31-(13) through(20) above. The following determinations have been made for each pollutant:

PM- Burning natural gas in an efficient combustion turbine. For this permit, it is assumed that all PM emissions are PM_{10}.
NOx- Use of DLN burners and employment of SCR with a controlled rate of 3.0 ppmvd at 15% oxygen (based on a 3 hour block averaging period).
CO- Use of good combustion practices with a rate of 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) without duct firing and 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) with duct firing.
VOC- Use of efficient combustion technology in the operation of the turbine.
SO_2- Burning natural gas in an efficient combustion turbine and burning low sulfur fuel.
H_2SO_4- Burning natural gas in an efficient combustion turbine.

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of the natural gas shall not exceed 2 grains per 100 standard cubic feet.

2. Startup and Shutdown shall be defined as when the unit is running at less than 50% of electric

load, but under no circumstances shall hot startups exceed 85 minutes in duration. Cold startups shall not exceed 250 minutes in duration. Startup and Shutdowns shall be limited to 260 cycles (one startup and one shutdown) per year. Shutdown emissions shall not exceed allowable emissions during normal operations since the SCR system will remain in operation during unit shutdown. Each Startup shall be limited to the following:

Pollutant	lbs/startup
NOx	145.6
CO	843.5
VOC	56.8

3. Except during periods of startup, the SCR shall be in operation at all times including periods of shutdown mode of the unit.

4. The maximum annual hours of operation of the duct burners for this emission unit shall not exceed 5,500 hours, based upon a rolling 12 month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit, the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Hours of Operation
1	800
1-2	1600
1-3	2400
1-4	3200
1-5	4000
1-6	4800
1-7	5500
1-8	5500
1-9	5500
1-10	5500
1-11	5500
1-12	5500

   After the first 12 calendar months following the startup of emission unit P001, compliance with the annual hours of operation restriction shall be based on a rolling, 12-month summation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for each emission unit:

   a. the natural gas usage rate for each month (in standard cubic feet).

   b. the hours of operation of the combustion turbine.

   c. the hours of operation of the duct burner.

   d. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the hours of operation.

   e. during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative hours of operation for each calendar month.

   f. the monthly emission rate * for NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 , in tons.

   h. beginning after the first 12 calendar months of operation, the rolling 12 month summation of NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 emissions, in tons.

   * The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM in installed.

2. The permittee shall install, certify, operate and maintain equipment to continuously monitor* and record NO_x, CO and O2 from this emissions unit in the units established in this permit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and 40 CFR Part 75, or as approved by the Ohio EPA, Central Office..

   The permittee shall maintain records of all data obtained by the continuous NO_x, CO and O2 monitoring system including, but not limited to, parts per million NO_x, CO and O2 on an instantaneous (one-minute) basis , emissions of NO_x , CO and O2 in units established in this permit in the appropriate averaging period , results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

   In conjunction with the operation of the NOx and CO CEMs, the permittee shall install, operate and maintain a system to monitor when the duct burners are being fired. The data measured by this system shall be compiled with the data recorded by the NOx and CO CEMs.

   * The installation and operation of systems to continuously monitor and record emissions of NOx may be performed in lieu of monitoring the nitrogen content of the fuels being fired in the turbine, as required by 40 CFR 60.334(b).

3. The permittee shall install, 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 appropriate missing data procedures specified in 40 CFR Part 75.

4. The permittee shall monitor the sulfur content and gross calorific value of the fuel being fired in the combustion turbine and duct burner. Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

5. The permittee shall determine the hourly heat input rate to the combustion turbine and duct burner from the fuel flow rate as determined in term A. III.3. and gross calorific value as determined in term A.III.4. The heat input rate shall be calculated in accordance with the procedures in section 5 of 40 CFR Part 75, Appendix F.

6. The permittee shall maintain records of the following information for each emission unit:

   a. Number and duration of each startup.

   b. Number and duration of each shutdown.

7. The permittee shall maintain daily records of the following information for this emission unit:

   in lb/hr emission rate for NOx and CO as obtained from term A.III.2. allowed in the appropriate sections of 40 CFR Part 60.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

3. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.03(l) and 40 CFR Part 60.7 and 60.13 (h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx or CO values, as recorded by the CEMs in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOX and CO emissions for the calendar quarter (in tons).

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting any continuous NOx, CO, or O_2 monitoring system down time while the emission unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emission unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emission unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emission unit was on line shall also be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emission unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emission unit and the total operating time of the analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the

permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Portsmouth Local Air Agency within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

4. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per standard cubic foot. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

5. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2. above. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

6. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess emissions reports for this emissions unit in accordance with this permit.

7. This emission unit is subject to the applicable provisions of Subpart Da and GG of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to :

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

and

Portsmouth Local Air Agency
605 Washington Street, Third Floor
Portsmouth, Ohio 45662

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emission unit.

   b. The emission testing shall be conducted to demonstrate compliance with the NOx and CO outlet concentration, and the mass emission limitations for NOx*, CO, Formaldehyde, VOC, PM/PM10 and ammonia.

   c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NOx, Method 20 of 40 CFR Part 60, Appendix A: for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for Formaldehyde, SW-846 Method 0011or EPA Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A and for ammonia, CTM-027. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

   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 or local air agency.

   e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth Local Air Agency. 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 Portsmouth Local Air Agency's refusal to accept the results of the emission test(s).

   f. Personnel from Portsmouth Local Air Agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth Local Air

Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.

* In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

2. Within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NOx, CO and O2 monitoring systems pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification2, 3 and 6* and/or 40 CFR Part 75, unless an extension is granted by Ohio EPA.. Personnel from the Portsmouth Local Air Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Portsmouth Local Air Agency and the Ohio EPA, Central Office. Certification of the continuous NOx, CO and O2 monitoring systems shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of the appropriate sections of ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2, 3, 4 and 6* and/or 40 CFR Part 75.

   * The permittee may use certified NOx and CO CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.

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

   a. Emission Limitation:

      NOx emissions shall not exceed 3.0 ppmvd at 15% Oxygen (based on 3 hr block avg.)
      21.1 lb/hr without duct firing
      27.8 lb/hr with duct firing
      121.2 TPY based on a 12 month rolling summation, which includes 18.9 tons for startups.

      Applicable Compliance Method:

      Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the

CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1, and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

b. Emission Limitation:

PM/PM10 emissions shall not exceed
15 lb/hr without duct burner firing
23.3 lb/hr with duct burner firing
88.53 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

c. Emission Limitation:

SO2 emissions shall not exceed
11 lb/hr without duct burner firing
14.4 lb/hr with duct burner firing
52.82 TPY based on a 12 month rolling summation

Applicable Compliance Methods:

Compliance with the lb/hr emission limitation shall be demonstrated by the recordkeeping required in A.III.1,4,5,6. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation by emission testing in accordance with approved USEPA test methods.

d. Emission Limitation:

VOC emissions shall not exceed

3.2 lb/hr without duct burner firing
20.4 lb/hr with duct burner firing
65.1 TPY based on a 12 month rolling summation, which includes 7.4 tons for startups.

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing as described in A.V.1.Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions. The annual emissions associated with start-up and shutdown shall be determined by record keeping required in A.III.7.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

e. Emission Limitation:

CO emissions shall not exceed
6 ppmvd at 15 % Oxygen without duct burner firing (based on 24 hr block avg.)
9 ppmvd at 15 % Oxygen with duct burner firing (based on 24 hr block avg.)
25.7 lb/hr without duct burner firing
50.3 lb/hr with duct burner firing
278.0 TPY based on a 12 month rolling summation, which includes 109.7 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1., and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

f. Emission Limitation:

ammonia (NH_3) emissions shall not exceed
28 lb/hr without duct burner firing
37.8 lb/hr with duct burner firing
140.01 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.014 pound/MMBtu (supplied by permittee) by the maximum MMBtu/hr firing rate. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved US EPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

g. Emission Limitation:

Formaldehyde emission shall not exceed
1.38 lb/hr without duct burner firing
1.42 lb/hr with duct burner firing
1.44 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitations shall be demonstrated by the performance testing as described in A.V.2 below. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate, as determined by the most recent performance test that demonstrated compliance, by the actual annual hours of operation and dividing by 2000 lb/ton.

h. Emission Limitation:

Sulfuric acid (H2SO4) emissions shall not exceed
1.68 lb/hr without duct burner firing
2.2 lb/hr with duct burner firing
8.07 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.0009 lb/MMBtu (supplied by permittee) by the maximum heat input. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved USEPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

i. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 10 percent opacity as a six minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

1. In accordance with good engineering practices, the SCR unit on emissions unit P003 shall be installed, 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 & maintenance manual, as provided by the manufacturer.

2. Prior to the installation of the continuous NOx, CO and O2 monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2,3,4 and 6 for approval by the Ohio EPA, Central Office.

3. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NOx, CO, and O_2 monitoring system designed to ensure continuous valid and representative readings of NOx, CO, and O_2 emissions in units of the applicable standard. The plan shall follow the requirements of the appropriate sections of 40 CFR Part 60, Appendix F or as approved by the Ohio EPA, Central Office and 40 CFR Part 75, Appendix B. The quality assurance/ quality control plan and logbook dedicated to the continuous NOx, CO, and O_2 monitoring system must be kept on site and available for inspection during regular office hours.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P003 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 3 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements
P004 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 4 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	40 CFR 52.21 and OAC rule 3745-31-(10) through (20)

	OAC rule 3745-31-05(A)(3)	OAC rule 3745-31-05(D) 40 CFR part 60, Subpart GG 40 CFR part 60, Subpart Da OAC rule 3745-18-06(F) OAC rule 3745-17-11(B)(4) OAC rule 3745-17-07(A) 40 CFR Part 63, Subpart YYYY 40 CFR Part 75 OAC rule 3745-103

Applicable Emissions Limitations/Control Measures		
EMISSION LIMITS WITHOUT DUCT BURNER FIRING	1.68 lb/hr.	7.4 tpy of VOC, based on a 12 month rolling average
nitrogen oxides (NOx) emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)
NOx emissions shall not exceed 21.1 lb/hr.	NOx emissions shall not exceed 3.0 ppmvd at 15 % oxygen (based on a 3 hour block averaging period).	121.2 tpy of NOx, based on a 12 month rolling average
particulate (PM/PM_{10})emissions shall not exceed 15 lb/hr.	NOx emissions shall not exceed 27.8 lb/hr.	52.82 tpy of SO2, based on a 12 month rolling average
sulfur dioxide (SO2) emission shall not exceed 11 lb/hr.	PM/PM_{10} emissions shall not exceed 23.3 lb/hr.	88.53 tpy of PM/PM_{10}, based on a 12 month rolling average
carbon monoxide (CO) emissions shall not exceed 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	SO_2 emissions shall not exceed 14.4 lb/hr.	278.0 tpy of CO, based on a 12 month rolling average
CO emissions shall not exceed 25.7 lb/hr.	CO emission s shall not exceed 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period).	65.1 tpy of VOC, based on a 12 month rolling average
volatile organic compounds (VOC) emissions shall not exceed 3.2 lb/hr .	CO emissions shall not exceed 50.3 lb/hr.	8.07 tpy of H2SO4, based on a 12 month rolling average
sulfuric acid (H_2SO_4) emissions shall not exceed	VOC emissions shall not exceed 20.4 lb/hr.	see A.I.2.e. below.
	H_2SO_4 emissions shall not exceed 2.2 lb/hr.	The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart GG, OAC rule 3745-18-06(F), OAC rule 3745-17-11 (B)(4), OAC rule 3745-17-07(A), 40 CFR 52.21, and OAC rule 3745-31-(10) through (20).
	STARTUP AND SHUTDOWN EMISSIONS (also see A.II.2)	EMISSION LIMITS WITHOUT DUCT BURNER FIRING
	18.9 tpy of NOx, based on a 12 month rolling average	
	109.7 tpy of CO, based on a 12 month rolling average	

ammonia (NH3) emissions shall not exceed 28 lb/hr.	see A.I.2.d below.
formaldehyde emissions shall not exceed 1.38 lb/hr.	See A.I.2.c. below.
EMISSION LIMITS WITH DUCT BURNER FIRING (limited to 5,500 hours per year)	See A.I.2.c. below.
NH_3 emissions shall not exceed 37.8 lb/hr.	
formaldehyde emissions shall not exceed 1.42 lb/hr.	
TOTAL TONS PER YEAR (including 3,260 hours per year without duct burners, 5,500 hours per year with duct burners, startups and shutdowns)	
140.01 tpy of NH3	
1.44 tpy of formaldehyde	
Visible particulate emissions shall not exceed 10 % opacity as a six minute average.	
see A.I.2.f. below. see A.II.4. below.	
see A.I.2.b. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	
see A.I.2.a. below.	

2. Additional Terms and Conditions

2.a The emissions limit based on this applicable rule is equivalent to or less stringent than the limit established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20).

2.b The emission limits based on this applicable rule are equivalent to or less stringent than the limits established pursuant to 40 CFR 52.21 and OAC rule 3745-31-(10) thru (20). Except as provided for in the terms and condition of this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60, Subpart GG.

2.c The permittee shall ensure that any effected emissions unit complies with the requirements of 40 CFR Part 75. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

2.d Upon promulgation, the permittee shall comply with the requirements in 40 CFR Part 63, YYYY, National Emission Standards for Hazardous Air Pollutants for Combustion Turbines.

2.e The permittee is required to perform a Best Available Control Technology (BACT) review for NOx, SO_2, CO, PM_{10}, H_2SO_4, and VOC. The emissions limits based on the BACT requirements are listed under 40 CFR 52.21 and OAC rule 3745-31-(13) through(20) above. The following determinations have been made for each pollutant:

PM- Burning natural gas in an efficient combustion turbine. For this permit, it is assumed that all PM emissions are PM_{10}.
NOx- Use of DLN burners and employment of SCR with a controlled rate of 3.0 ppmvd at 15% oxygen (based on a 3 hour block averaging period).
CO- Use of good combustion practices with a rate of 6 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) without duct firing and 9 ppmvd at 15 % oxygen (based on a 24 hour block averaging period) with duct firing.
VOC- Use of efficient combustion technology in the operation of the turbine.
SO_2- Burning natural gas in an efficient combustion turbine and burning low sulfur fuel.
H_2SO_4- Burning natural gas in an efficient combustion turbine.

II. Operational Restrictions

1. The permittee shall burn only natural gas in this emission unit. The maximum sulfur content of the natural gas shall not exceed 2 grains per 100 standard cubic feet.

2. Startup and Shutdown shall be defined as when the unit is running at less than 50% of electric

load, but under no circumstances shall hot startups exceed 85 minutes in duration. Cold startups shall not exceed 250 minutes in duration. Startup and Shutdowns shall be limited to 260 cycles (one startup and one shutdown) per year. Shutdown emissions shall not exceed allowable emissions during normal operations since the SCR system will remain in operation during unit shutdown. Each Startup shall be limited to the following:

Pollutant	lbs/startup
NOx	145.6
CO	843.5
VOC	56.8

3. Except during periods of startup, the SCR shall be in operation at all times including periods of shutdown mode of the unit.

4. The maximum annual hours of operation of the duct burners for this emission unit shall not exceed 5,500 hours, based upon a rolling 12 month summation.

   To ensure enforceability during the first 12 calendar months following the startup of this emissions unit, the permittee shall not exceed the monthly hours of operation restrictions specified in the following table:

Month	Hours of Operation
1	800
1-2	1600
1-3	2400
1-4	3200
1-5	4000
1-6	4800
1-7	5500
1-8	5500
1-9	5500
1-10	5500
1-11	5500
1-12	5500

   After the first 12 calendar months following the startup of emission unit P001, compliance with the annual hours of operation restriction shall be based on a rolling, 12-month summation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for each emission unit:

   a. the natural gas usage rate for each month (in standard cubic feet).

   b. the hours of operation of the combustion turbine.

   c. the hours of operation of the duct burner.

   d. beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of the hours of operation.

   e. during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative hours of operation for each calendar month.

   f. the monthly emission rate * for NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 , in tons.

   h. beginning after the first 12 calendar months of operation, the rolling 12 month summation of NOx, CO, SO2, PM/PM_{10}, VOC and H_2SO_4 emissions, in tons.

   * The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM in installed.

2. The permittee shall install, certify, operate and maintain equipment to continuously monitor* and record NO_x ,CO and O2 from this emissions unit in the units established in this permit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and 40 CFR Part 75, or as approved by the Ohio EPA, Central Office..

   The permittee shall maintain records of all data obtained by the continuous NO_x, CO and O2 monitoring system including, but not limited to, parts per million NO_x, CO and O2 on an instantaneous (one-minute) basis , emissions of NO_x , CO and O2 in units established in this permit in the appropriate averaging period, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

   In conjunction with the operation of the NOx and CO CEMs, the permittee shall install, operate and maintain a system to monitor when the duct burners are being fired. The data measured by this system shall be compiled with the data recorded by the NOx and CO CEMs.

   * The installation and operation of systems to continuously monitor and record emissions of NOx may be performed in lieu of monitoring the nitrogen content of the fuels being fired in the turbine, as required by 40 CFR 60.334(b).

3. The permittee shall install, 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 appropriate missing data procedures specified in 40 CFR Part 75.

4. The permittee shall monitor the sulfur content and gross calorific value of the fuel being fired in the combustion turbine and duct burner. Fuel sampling and analysis shall be conducted according to the procedures and at the frequency specified by 40 CFR Part 75, Appendix D.

5. The permittee shall determine the hourly heat input rate to the combustion turbine and duct burner from the fuel flow rate as determined in term A. III.3. and gross calorific value as determined in term A.III.4. The heat input rate shall be calculated in accordance with the procedures in section 5 of 40 CFR Part 75, Appendix F.

6. The permittee shall maintain records of the following information for each emission unit:

   a. Number and duration of each startup.

   b. Number and duration of each shutdown.

7. The permittee shall maintain daily records of the following information for this emission unit:

   in lb/hr emission rate for NOx and CO as obtained from term A.III.2. allowed in the appropriate sections of 40 CFR Part 60.

IV. Reporting Requirements

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

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative operating hours levels. These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

3. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.03(l) and 40 CFR Part 60.7 and 60.13 (h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx or CO values, as recorded by the CEMs in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOX and CO emissions for the calendar quarter (in tons).

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency documenting any continuous NOx, CO, or O_2 monitoring system down time while the emission unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emission unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emission unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emission unit was on line shall also be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emission unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emission unit and the total operating time of the analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

   Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the

permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Portsmouth Local Air Agency within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

4. The permittee shall submit deviation (excursion) reports that identify any record which shows that the sulfur content of the natural gas exceeded 2 grains per standard cubic foot. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

5. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2. above. These reports are due by the date described in Part I - General Terms and Conditions of this permit under section (A)(2).

6. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess emissions reports for this emissions unit in accordance with this permit.

7. This emission unit is subject to the applicable provisions of Subpart Da and GG of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

   Pursuant to 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

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

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

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

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

   Reports are to be sent to :

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

and

Portsmouth Local Air Agency
605 Washington Street, Third Floor
Portsmouth, Ohio 45662

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emission unit.

   b. The emission testing shall be conducted to demonstrate compliance with the NOx and CO outlet concentration, and the mass emission limitations for NOx*, CO, Formaldehyde, VOC, PM/PM10 and ammonia.

   c. The following test method(s) shall be employed to demonstrate compliance with the above emission limitations: for NOx, Method 20 of 40 CFR Part 60, Appendix A: for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for Formaldehyde, SW-846 Method 0011or EPA Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A and for ammonia, CTM-027. Alternative USEPA approved test methods may be used with prior approval from the Ohio EPA.

   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 or local air agency.

   e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth Local Air Agency. 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 Portsmouth Local Air Agency's refusal to accept the results of the emission test(s).

   f. Personnel from Portsmouth Local Air Agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth Local Air

Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.

* In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.

2. Within 60 days after achieving the maximum production rate at which the emission unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NOx, CO and O2 monitoring systems pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification2, 3 and 6* and/or 40 CFR Part 75, unless an extension is granted by the Ohio EPA. Personnel from the Portsmouth Local Air Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Portsmouth Local Air Agency and the Ohio EPA, Central Office. Certification of the continuous NOx, CO and O2 monitoring systems shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of the appropriate sections of ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 2, 3, 4 and 6* and/or 40 CFR Part 75.

* The permittee may use certified NOx and CO CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.

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

a. Emission Limitation:

NOx emissions shall not exceed 3.0 ppmvd at 15% Oxygen (based on 3 hr block avg.)
21.1 lb/hr without duct firing
27.8 lb/hr with duct firing
121.2 TPY based on a 12 month rolling summation, which includes 18.9 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the

CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1., and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

b. Emission Limitation:

PM/PM10 emissions shall not exceed
15 lb/hr without duct burner firing
23.3 lb/hr with duct burner firing
88.53 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

c. Emission Limitation:

SO2 emissions shall not exceed
11 lb/hr without duct burner firing
14.4 lb/hr with duct burner firing
52.82 TPY based on a 12 month rolling summation

Applicable Compliance Methods:

Compliance with the lb/hr emission limitation shall be demonstrated by the recordkeeping required in A.III.1,4,5,6.Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation by emission testing in accordance with approved USEPA test methods.

d. Emission Limitation:

VOC emissions shall not exceed

3.2 lb/hr without duct burner firing
20.4 lb/hr with duct burner firing
65.1 TPY based on a 12 month rolling summation, which includes 7.4 tons for startups.

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by the performance testing as described in A.V.1. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions. The annual emissions associated with start-up and shutdown shall be determined by record keeping required in A.III.7.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

e. Emission Limitation:

CO emissions shall not exceed
6 ppmvd at 15 % Oxygen without duct burner firing (based on 24 hr block avg.)
9 ppmvd at 15 % Oxygen with duct burner firing (based on 24 hr block avg.)
25.7 lb/hr without duct burner firing
50.3 lb/hr with duct burner firing
278.0 TPY based on a 12 month rolling summation, which includes 109.7 tons for startups.

Applicable Compliance Method:

Initial compliance with the allowable outlet concentration, and the lb/hr emission limitations shall be demonstrated by the performance testing as described in section A.V.1. and continual compliance with those limitations shall be demonstrated by the use of the CEM in condition A.III.2. Compliance with the annual emission limitation shall be determined by the record keeping required in condition A.III.1., and 2. The annual emissions associated with start-up and shutdown shall be demonstrated by the record keeping required in A.III 7. using the lb/start-up and shutdown values in A.II.2.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

f. Emission Limitation:

ammonia (NH_3) emissions shall not exceed
28 lb/hr without duct burner firing
37.8 lb/hr with duct burner firing
140.01 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.014 pound/MMBtu (supplied by permittee) by the maximum MMBtu/hr firing rate. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved US EPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

g. Emission Limitation:

Formaldehyde emission shall not exceed
1.38 lb/hr without duct burner firing
1.42 lb/hr with duct burner firing
1.44 TPY

Applicable Compliance Method:

Compliance with the lb/hr emission limitations shall be demonstrated by the performance testing as described in A.V.2 below. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate, as determined by the most recent performance test that demonstrated compliance, by the actual annual hours of operation and dividing by 2000 lb/ton.

h. Emission Limitation:

Sulfuric acid (H2SO4) emissions shall not exceed
1.68 lb/hr without duct burner firing
2.2 lb/hr with duct burner firing
8.07 TPY based on a 12 month rolling summation

Applicable Compliance Method:

Compliance with the lb/hr emission limitation shall be demonstrated by multiplying the emission factor of 0.0009 lb/MMBtu (supplied by permittee) by the maximum heat input. If required, the permittee shall demonstrate compliance by emission testing in accordance with approved USEPA test methods. Compliance with the annual emission limitation shall be determined by the multiplying the hourly emissions rate by the actual annual hours of operation and dividing by 2000lb/ton. The monthly emissions shall be added to the previous 11 months to determine the rolling 12 month total emissions.

TPY allowables were calculated using projected lb/hr emission rates at 56 deg F.

i. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 10 percent opacity as a six minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in OAC rule 3745-17-03(B)(1) determined according to Method 9 of 40 CFR Part 60, Appendix A.

VI. Miscellaneous Requirements

1. In accordance with good engineering practices, the SCR unit on emissions unit P004 shall be installed, 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 & maintenance manual, as provided by the manufacturer.

2. Prior to the installation of the continuous NOx, CO and O2 monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2,3,4 and 6 for approval by the Ohio EPA, Central Office.

3. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NOx, CO, and O_2 monitoring system designed to ensure continuous valid and representative readings of NOx, CO, and O_2 emissions in units of the applicable standard. The plan shall follow the requirements of the appropriate sections of 40 CFR Part 60, Appendix F or as approved by the Ohio EPA, Central Office and 40 CFR Part 75, Appendix B. The quality assurance/ quality control plan and logbook dedicated to the continuous NOx, CO, and O_2 monitoring system must be kept on site and available for inspection during regular office hours.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P004 - 172 MW GE 7FA natural gas fired dry low NOx (DLN) combustion turbine No. 4 with duct firing operating in combined cycle mode controlled by Selective Catalytic Reduction (SCR)	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

SECTION II

APPLICABLE WASTEWATER REQUIREMENTS

Duke Energy - Hanging Rock, LLC **Facility ID: 0744000150**
PTI Application: 07-00503
Issued: 12/13/2001

The above named entity is hereby granted a permit to install for the above described source 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 above described source of environmental pollutants will operate in compliance with applicable state and federal laws and regulations. Issuance of this permit does not constitute expressed or implied assurance that, if constructed or modified in accordance with those plans and specifications, the above described source of pollutants will be granted the necessary operating permits. This permit is granted subject to the following conditions attached hereto.

The Director has determined that a lowering of water quality in the Ohio River is necessary. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and appropriate intergovernmental comments. The lowering of water quality is necessary to accommodate important social or economic development in the area in which the water body is located.

This permit shall expire if construction has not been initiated by the applicant within eighteen months of the effective date of this permit. By accepting this permit, the applicant acknowledges that this eighteen month period shall not be considered or construed as extending or having any effect whatsoever on any compliance schedule or deadline set forth in any administrative or court order issued to or binding upon the permit applicant, and the applicant shall abide by such compliance schedules or deadlines to avoid the initiation of additional legal action by the Ohio EPA.

The director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records, or reports pertaining to the construction, modification, or installation of the above described source of environmental pollutants.

Issuance of this permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations.

Any well, well point, pit, or other device installed for the purpose of lowering the ground water level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of this plan or as directed by the director or his representative.

Any person installing any well, well point, pit or other device used for the purpose of removing ground water from an aquifer shall complete and file a Well Log and Drilling Report form with the Ohio Department of Natural Resources, Division of Water, within 30 days of the well completion in accordance with the Ohio Revised code Section 1521.01 and 1521.05. In addition, any such facility that has a capacity to withdraw waters of the state in an amount greater than 100,000 gallons per day from all sources shall be registered by the owner with the chief of the Division of Water, Ohio Department of Natural Resources, within three months after the facility is

completed in accordance with Section 1521.16 of the Ohio Revised Code. For copies of the necessary well log, drilling report, or registration forms, please contact:

Ohio Department of Natural Resources
Fountain Square
Columbus, OH 43224-1387
(614) 265-6717

If the construction of the wastewater disposal system has already begun or has been completed before the date the director of the Ohio Environmental Protection Agency approves the plans and issues a permit, the approval does not constitute expressed or implied assurance that the proposed wastewater disposal system has been constructed in accordance with the approved plans. The action of beginning and/or completing construction before obtaining the director's approval is a violation of the Ohio Administrative Code, Rule 3745-31-02. Furthermore, issuance of the permit to install does not constitute an assurance that the proposed wastewater disposal system will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the wastewater disposal system as constructed and/or completed. Moreover, issuance of the permit to install 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 before the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed wastewater disposal system proves to be inadequate or cannot meet applicable standards.

No liquids, sludges, or toxic or hazardous substances other than those set forth in the approved permit shall be accepted for disposal without the prior written approval of the Ohio Environmental Protection Agency.

Sewer and manhole construction joints shall conform to standards of the Ohio Environmental Protection Agency.

When Polyvinyl Chloride or Acrylonitrile Butadiene Styrene pipe is used, it must be tested for maximum deflection of 5 percent under the supervision of a professional engineer at a time when he has determined that the backfill has settled. Pipe with a stiffness of 200 p.s.i. or greater need not be tested for deflection if all pipe between manholes is less than 12 feet below final grade. Results of these tests shall be submitted to the appropriate district office. Any lines which fail the test must be repaired and retested until they meet the requirements.

Construction of any wastewater treatment works shall be completed and operation of the facility approved by the Ohio Environmental Protection Agency before sewage or other wastewater is generated by the applicant or is discharged to the wastewater disposal system.

The Southeast District Office of the Ohio Environmental Protection Agency shall be notified in writing as to (a) the construction starting date; (b) the construction completion date; and (c) the date the wastewater disposal system was placed into operation.

The tile field shall not be constructed during periods when the ground is frozen or when the moisture content will cause smearing of the trench walls and/or trench bottom.

Duke Energy - Hanging Rock, LLC **Facility ID: 0744000150**
PTI Application: 07-00503
Issued: 12/13/2001

Special Conditions

Division of Drinking and Ground Water Requirements:

All sanitary sewers or manholes shall be placed with at least 10 feet horizontal separation from waterlines. Whenever a waterline and sewer must cross, the sewer main shall be laid such that the crown of the sewer is at least 18-inches below the invert of the waterline measured between the outside pipe walls. In cases where the required separation cannot be maintained, closer installation may be permitted on a case-by-case basis only after receipt of written concurrence from the Ohio EPA Division of Drinking Water.

Special Conditions of this PTI Approval include the following:

1. Applicant shall contact the appropriate district of U.S. Army Corps of Engineering for a determination regarding the potential impacts to waters of the State as well as the requirements for obtaining, if necessary, a Clean Water Act Section 404 permit and Section 401 water quality certification. The applicant shall acquire a Section 404 permit and 401 water quality certification, if needed, before impacting any waters of the State as part of this project.

2. Prior to construction of any wastewater treatment and disposal systems, three(3) complete sets of construction plans and specifications of the wastewater treatment and disposal systems must be submitted to the Ohio EPA Southeast District Office.

3. A separate Permit to Install application with three(3) complete sets of detailed plans and specifications, stamped by a professional engineer registered in Ohio, for the sewage treatment and disposal system must be submitted for review and approval prior to construction of any component of the sewage system for sanitary wastewater.

4. All construction of the wastewater treatment and disposal systems must conform to the application and supporting information and documentation submitted to the Ohio EPA.

5. Treatment and disposal of all liquid waste streams including contaminated storm water runoff must be in accordance with the submitted application and supporting documentation.

6. The effluent pump station must be provided with standby pumping capability. The pumping units shall have the capacity such, with any unit out of service the remaining units will have the capacity to handle the design peak hourly flow.

7. The pump station shall be adequately alarmed to alert the facility manager or operator that the system is malfunctioning.

8. If used, any exterior chemical storage tanks shall be provided with secondary containment that is sized for 110% of the tank volume. The containment system shall be adequately designed so the contents dos not drain out unless a locked valve is opened.

9. All potable water and liquid waste lines shall be properly isolated. All sewers or manholes shall be placed with at least 10 feet horizontal separation from waterlines. Whenever a waterline and sewer must cross, the sewer line shall be laid such that the crown of the sewer is at least 18 inches below the invert of the waterline measured between the outside pipe walls. In cases where the required separation cannot be maintained, closer installation may be permitted on a case-by-case basis only after receipt of written concurrence from the Ohio EPA Division of Drinking Water.

10. The permittee shall contact the Ohio EPA Southeast District Office before discharge of any hydrostatic test water, for discharge eligibility, requirements and testing.