



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL**  
**FRANKLIN COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 01-08112**

**DATE: 2/16/00**

American Electric Power  
Michael Robida  
1 Riverside Plaza  
Columbus, OH 43215

Enclosed please find an Ohio EPA 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, I 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, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: USEPA

CDO



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: 2/16/00

**FINAL PERMIT TO INSTALL 01-08112**

Application Number: 01-08112  
APS Premise Number: 0125101864  
Permit Fee: **\$200**  
Name of Facility: American Electric Power  
Person to Contact: Michael Robida  
Address: 1 Riverside Plaza  
Columbus, OH 43215

Location of proposed air contaminant source(s) [emissions unit(s)]:

**4001 Bixby Rd  
Groveport, Ohio**

Description of proposed emissions unit(s):

**Gas fired turbine**

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

## Part I - GENERAL TERMS AND CONDITIONS

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

#### 3. Records Retention Requirements

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

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. Scheduled Maintenance/Malfunction Reporting**

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

**6. Permit Transfers**

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

**7. Air Pollution Nuisance**

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

**8. 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.

**9. 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 are inadequate 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 prove to be inadequate or cannot meet applicable standards.

**10. 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.

**11. 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).

**12. 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.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 emissions unit(s) covered by this permit.

**14. Construction Compliance Certification**

**American Electric Power**  
**PTI Application: 01-08112**  
**Issued: 2/16/00**

**Facility ID: 0125101864**

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.

**15. 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.

**B. 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**

American Electric Power  
PTI Application: 01-09112  
Issued

Facility ID: 0125101864

Emissions Unit ID: P002

<u>Pollutant</u>	<u>Tons Per Year</u>
OC	1.1
NOX	1.3
CO	2.0
PM	0.06

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - Gas-fired microturbine 28kW	OAC rule 3745-31-05	Nitrogen oxide emissions shall not exceed 0.30 lb/hr and 1.3 ton/year.
		Carbon monoxide emissions shall not exceed 0.46 lb/hr and 2.0 ton/yr.
		Organic compound emissions shall not exceed 0.26 lb/hr and 1.1 ton/yr.
		Particulate emissions shall not exceed 0.06 ton/yr. See A.2.a. below.
	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20 % opacity, as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(4)	Particulate emissions shall not exceed 0.04 pound per million BTU of actual heat input.

### 2. Additional Terms and Conditions

- 2.a The hourly and annual emissions limits were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**B. Operational Restrictions**

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

**C. 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 emissions unit.

**D. Reporting Requirements**

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

**E. Testing Requirements**

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

a. Emission Limitation

Nitrogen oxide emissions shall not exceed 0.30 lb/hr.

Applicable Compliance Method

Compliance shall be determined by converting test concentration of 200 ppm NO<sub>x</sub> to 200 pound mole NO<sub>x</sub>/10<sup>6</sup> pound mole combustion air \* 12,479 ft<sup>3</sup> combustion air/hr = 2.49 ft<sup>3</sup> NO<sub>x</sub>/hr divided by 379 ft<sup>3</sup> per mole of air \* 46 lb/lb mole NO<sub>x</sub>. = 0.30 lb NO<sub>x</sub>/hr.

Emission Limitation

Nitrogen oxide emissions shall not exceed 1.3 ton/year

Applicable Compliance Method

Compliance shall be determined by either multiplying the maximum hourly emission rate 0.30 lb NO<sub>x</sub>/hr times the maximum operating hours 8,760 and dividing by 2,000 lb per ton, or SCC code 2-02-00201 factor of 413 lb NO<sub>x</sub> /MMft<sup>3</sup> gas burned \* 3.93MM ft<sup>3</sup> burned/2,000 pounds = 0.8 ton NO<sub>x</sub>/yr

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**Ameri**

**PTI A**

**Issued: 2/16/00**

Emissions Unit ID: **P002**

b. Emission Limitation

Carbon monoxide emissions shall not exceed 0.46 lb/hr.

Applicable Compliance Method

Compliance shall be determined by converting test concentration of 500 ppm CO to 500 pound mole CO/10e6 pound mole combustion air \* 12,479 ft3 combustion air/hr = 6.24 ft3 CO/hr divided by 379 ft3 per mole of air \* 28 lb/lb mole CO.= 0.46 lb CO/hr

Emission Limitation

Carbon monoxide emissions shall not exceed 2.0 ton/year

Applicable Compliance Method

Compliance shall be determined by either multiplying the maximum hourly emission rate 0.46 lb CO/hr times the maximum operating hours 8,760 and dividing by 2,000 lb per ton, or SCC code 2-02-00201 factor of 115 lb CO /MMft3 gas burned \* 3.93MM ft3 burned/ 2,000 pounds = 0.23 ton CO/yr

c. Emission Limitation

Organic compound emissions shall not exceed 0.26 lb/hr.

Applicable Compliance Method

Compliance shall be determined by converting test concentration of 500 ppm OC to 500 pound mole OC/10e6 pound mole combustion air \* 12,479 ft3 combustion air/hr = 6.24 ft3 OC/hr divided by 379 ft3 per mole of air \* 16 lb/lb mole OC.= 0.46 lb OC/hr.

Emission Limitation

Organic compound emissions shall not exceed 1.1 ton/year

Applicable Compliance Method

Compliance shall be determined by either multiplying the maximum hourly emission rate 0.26 lb CO/hr times the maximum operating hours 8,760 and dividing by 2,000 lb per ton, or SCC code 2-02-002-01 factor of 12.6 lb OC /MMft3 gas burned \* 3.93MM ft3 burned/ 2,000 pounds = 0.025 ton OC/yr.

d. Emission Limitation

**American Electric Power**  
**PTI Application: 01-09112**  
**Issued**

**Facility ID: 0125101864**

Emissions Unit ID: **P002**

Particulate emissions shall not exceed 0.06 ton/year

Applicable Compliance Method

Compliance shall be determined by multiplying either the maximum allowable particulate emission rate of 0.04 lb/MMBTU/hr times the maximum input capacity of 0.41 MMBTU/hr times the maximum operating hours 8,760 and dividing by 2,000 lb per ton, or SCC code 2-02-00201 factor of 14 lb PM /MMft<sup>3</sup> gas burned \* 3.93MM ft<sup>3</sup> burned/2,000 pounds = 0.03 ton PM/yr

e. Emission Limitation

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

Applicable Compliance Method

Compliance shall be demonstrated by OAC rule 3745-17-03(B)(1), if necessary.

**F. Miscellaneous Requirements**

1. The provisions in 40CFR Part60 Subpart GG do not apply to this emissions unit because the the heat input under peak load are less than 10.7 gigajoules per hour.

**NEW SOURCE REVIEW FORM B**

PTI Number: 01-08112 Facility ID: 0125101864

FACILITY NAME American Electric Power

FACILITY DESCRIPTION Gas fired turbine CITY/TWP Groveport

SIC CODE 8734 SCC CODE 3-01-002-01 EMISSIONS UNIT ID P002

EMISSIONS UNIT DESCRIPTION Gas-fired microturbine 28kW

DATE INSTALLED 2/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	Attainment			0.04 lb/MMBTU	0.06
PM <sub>10</sub>					
Sulfur Dioxide					
Organic Compounds	Attainment			0.26	1.1
Nitrogen Oxides	Attainment			0.30	1.3
Carbon Monoxide	Attainment			0.46	2.0
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

**Enter Determination** Use of natural gas, compliance with applicable rule and allowable limits.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to containinants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED\*? YES No NO

IDENTIFY THE AIR CONTAMINANTS: \_\_\_\_\_

**NEW SOURCE REVIEW FORM B**

PTI Number: 01-08112 Facility ID: 0125101864

FACILITY NAME American Electric Power

FACILITY DESCRIPTION Gas fired turbine CITY/TWP Groveport

**Please describe any hard copy information is being submitted with this recommendation (Please send hard copy information to Pam McGraner, DAPC Central Office - Air Quality Modeling and Planning):**

**Please provide any additional permit specific notes as you deem necessary:  
NEW SOURCE REVIEW DISCUSSION  
PTI 01-08112 28 kW Capstone gas-fired microturbine test stand**

**A. General Information**

American Electric Power proposes to test small (0.41 MMBTU/hr maximum) gas-fired microturbines for 30-45 days in a laboratory setting. AEP intends to test the ability of these turbines to handle peak demand that may be required to meet the peak demand of utility customers. Microturbines will be rotated out.

**B. Applicable Rules**

OAC rule 3745-17-11(B)(4): Particulate emissions shall not exceed 0.04 pound per million BTU of actual heat input for gas-fired turbine.

OAC rule 3745-31-05: Capstone provided test data used to develop hourly emission rates for carbon monoxide, nitrogen oxide, and organic compounds. The hourly and annual emission rates are calculated at maximum potential to emit using natural gas as a fuel.

OAC rule 3745-17-07(A): Visible particulate emissions shall not exceed 20 % opacity, as a six-minute average, except as provided by rule.

**C. Miscellaneous**

The application lists an initial startup date of February 2000, unless the permit is delayed

**D. Fee**

The company requested registration status and qualifies for this processing The total fee would be \$75.00

**CALCULATIONS**

Capstone Test: 200 ppm (200 lb mole NO<sub>x</sub>/10e6 lb mole air) \* 12,479 ft<sup>3</sup> combustion air/hr  
= 2.49 ft<sup>3</sup> NO<sub>x</sub>/hr/379 ft<sup>3</sup>/mole \* 46 lb/lbmole = 0.30 lb No<sub>x</sub>/hr

Capstone Test: 500 ppm (500 lb mole CO/10e6 lb mole air) \* 12,479 ft<sup>3</sup> combustion air/hr  
= 6.24 ft<sup>3</sup> CO/hr/379 ft<sup>3</sup>/mole \* 28 lb/lbmole = 0.46 lb CO/hr

Capstone Test: 500 ppm (500 lb mole OC/10e6 lb mole air) \* 12,479 ft<sup>3</sup> combustion air/hr  
= 6.24 ft<sup>3</sup> OC/hr/379 ft<sup>3</sup>/mole \* 16 lb/lbmole = 0.26 lb OC/hr

**NEW SOURCE REVIEW FORM B**

PTI Number: 01-08112 Facility ID: 0125101864

FACILITY NAME American Electric Power

FACILITY DESCRIPTION Gas fired turbine CITY/TWP Groveport

**Permit To Install Synthetic Minor Write-Up****NONE****Please fill in the following for this permit:****TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
OC	1.1
NOX	1.3
CO	2.0
PM	0.06