



State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL MODIFICATION  
BUTLER COUNTY**

**CERTIFIED MAIL**

Street Address:

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

Mailing Address:  
Lazarus Gov.  
Center

**Application No:** 14-04682

**DATE:** 4/29/2003

Cinergy - Madison Station  
J. Michael Gears  
2100 Woodsdale Road  
Trenton, OH 45067-9540

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install modification for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit modification. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit modification should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install modification may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install modification a fee of **\$ 1400** will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

Michael W. Ahern, Supervisor  
Field Operations and Permit Section  
Division of Air Pollution Control

CC: USEPA

HCDES

OH-KY-IN Regional Council of Gov.

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KY

**BUTLER COUNTY**

PUBLIC NOTICE

ISSUANCE OF DRAFT ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL **14-04682**

On 4/29/2003 the Director of the Ohio Environmental Protection Agency issued a draft action of an administrative modification of a prior Permit To Install document for an air contaminant source for **Cinergy - Madison Station**, located at **5657 Kennel Road, Trenton, Ohio**.

The administrative modification shall become effective upon final issuance.

**Modification of PTI 14-04682, issued July 14, 1999, for eight simple cycle turbines to allow for startup and shutdown emissions.**

Comments concerning this draft action, or a request for a public hearing, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Harry Schweitering, Hamilton County Department of Environmental Services, 250 William Howard Taft Pkwy, Cincinnati, OH 45219-2660 [(513)946-7777]



**Permit To Install  
Terms and Conditions**

**Issue Date: To be entered upon final issuance  
Effective Date: To be entered upon final issuance**

**DRAFT MODIFICATION OF PERMIT TO INSTALL 14-04682**

Application Number: 14-04682  
APS Premise Number: 1409000896  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: Cinergy - Madison Station  
Person to Contact: J. Michael Gears  
Address: 2100 Woodsdale Road  
Trenton, OH 45067-9540

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**5657 Kennel Road  
Trenton, Ohio**

Description of proposed emissions unit(s):  
**Modification of PTI 14-04682, issued July 14, 1999, for eight simple cycle turbines to allow for startup and shutdown emissions.**

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Cinergy - Madison Station

Facility ID: 1409000896

PTI Application: 14-04682

Issued: To be entered upon final issuance

**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 emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the 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.9 below if no deviations occurred during the quarter.

**Cinergy - Madison Station**

**Facility ID: 1409000896**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

- 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**

**Issued: To be entered upon final issuance**

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

**Cinergy - Madison Station**

**Facility ID: 1409000896**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

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 ninety (90) 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.

#### **12. 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.

**Cinergy - Madison Station**

**Facility ID: 1409000896**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

**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. 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.

**Cinergy - Madison Station**

**Facility ID: 1409000896**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

**5. 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.

**6. 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.

**7. 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).

**8. 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.

**9. Additional Reporting Requirements When There Are No Deviations of Federally**

Cinergy - Madison Station

Facility ID: 1409000896

PTI Application: 14-04682

Issued: To be entered upon final issuance

**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

<u>Pollutant</u>	<u>Tons Per Year</u>
PM/PM10	61.1
SO <sub>2</sub>	124.4
NO <sub>x</sub>	733.3
CO	548.7
VOC	37.1
H <sub>2</sub> SO <sub>4</sub>	12.2
Beryllium	0.00084
Arsenic	0.012
Benzene	7.7
Lead	0.15
Mercury	0.0023

12

**Cinergy - Madison Station**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

**Facility ID: 1409000896**

Issued: To be entered upon final issuance

**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 of notice is by mail, in which case the effective date of the permit shall be 33 days after the service of notice; and (2) if an appeal is made to the Environmental Appeals Board of the United States Environmental Protection Agency, the effective date of the permit is suspended until such time as the appeal is resolved or denied.

Appeals will be addressed to:

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

**MACT "Hammer" Requirements**

2. The permittee will be subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Combustion Turbines, 40 CFR Part 63, Subpart YYYY. U.S. EPA failed to promulgate this standard by May 15, 2002, the Maximum Achievable Control Technology (MACT) hammer date. In accordance with 40 CFR Part 63, Subpart B (40 CFR Parts 63.50 through 63.56), the permittee shall submit an application to revise the permit to include equivalent emission limitations as a result of a case-by-case MACT determination. The application shall be submitted in two parts. The deadline to submit the Part I application, as specified in 40 CFR Part 63.53, was May 15, 2002.
3. If the final MACT standard is not promulgated by the deadline specified by U.S. EPA, the permittee shall submit the Part II application as specified in 40 CFR Part 63.53. The Part II

**Cinergy - Madison Station**

**Facility ID: 1409000896**

**PTI Application: 14-04682**

**Issued: To be entered upon final issuance**

application shall be submitted within 60 days after the deadline to promulgate the respective standard, as specified by the settlement between U.S.EPA and Sierra Club. It must contain the following information:

- a. for a new affected source, the anticipated date of startup of operation;
  - b. the hazardous air pollutants (HAPs) emitted by each affected source in the relevant source category and an estimated total uncontrolled and controlled emission rate for HAPs from the affected source;
  - c. any existing federal, State, or local limitations or requirements applicable to the affected source;
  - d. for each affected emission point or group of affected emission points, an identification of control technology in place;
  - e. information relevant to establishing the MACT floor (or MACT emission limitation), and, at the option of the permittee, a recommended MACT floor; and
  - f. any other information reasonably needed by the permitting authority including, at the discretion of the permitting authority, information required pursuant to Subpart A of 40 CFR Part 63.
4. The Part II application for a MACT determination may, but is not required to, contain the following information:
- a. recommended emission limitations for the affected source and support information (the permittee may recommend a specific design, equipment, work practice, or operational standard, or combination thereof, as an emission limitation);
  - b. a description of the control technologies that would be applied to meet the emission limitation, including technical information on the design, operation, size, estimated control efficiency and any other information deemed appropriate by the permitting authority, and identification of the affected sources to which the control technologies must be applied; and
  - c. relevant parameters to be monitored and frequency of monitoring to demonstrate continuous compliance with the MACT emission limitation over the applicable reporting period.
5. If the NESHAP is promulgated before May 15, 2004, the facility will be subject to the rule as an existing major source with a compliance date as specified in the NESHAP. Pursuant to the Subpart, the permittee shall submit the following notifications:
- a. Within 120 days after promulgation of a 40 CFR Part 63 Subpart YYYY, the permittee shall submit an Initial Notification Report which certifies whether or not the permittee is subject to the promulgated standard. If the permittee is subject to the final standard, the following information shall also be included in the Initial Notification Report, in

accordance with 40 CFR Part 63.9(b)(2):

- i. the name and mailing address of the permittee;
  - ii. the physical location of the source if it is different from the mailing address;
  - iii. identification of the relevant MACT standard and the source's compliance date;
  - iv. a brief description of the nature, design, size, and method of operation of the source, and an identification of the types of emission points within the affected source subject to the relevant standard and the types of HAPs emitted; and
  - v. a statement confirming the facility is a major source for HAPs.
- b. Within 60 days following completion of any required compliance demonstration activity specified in 40 CFR Part 63, Subpart YYYY, the permittee shall submit a notification of compliance status that contains the following information:
- i. the methods used to determine compliance;
  - ii. the results of any performance tests, visible emission observations, continuous monitoring systems performance evaluations, and/or other monitoring procedures or methods that were conducted;
  - iii. the methods that will be used for determining continuous compliance, including a description of monitoring and reporting requirements and test methods;
  - iv. the type and quantity of HAPs emitted by the source, reported in units and averaging times in accordance with the test methods specified in 40 CFR Part 63, Subpart YYYY;
  - v. an analysis demonstrating whether the affected source is a major source or an area source;
  - vi. a description of the air pollution control equipment or method for each emission point, including each control device or method for each HAP and the control efficiency (percent) for each control device or method; and
  - vii. a statement of whether or not the permittee has complied with the requirements of 40 CFR Part 63, Subpart YYYY.

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

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P001 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20  The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.

OAC rule 3745-31-05(A)(3)

OAC rule 3745-17-07(A)

Ciner;  
PTI A

Emissions Unit ID: P001

**Issued: To be entered upon final issuance**

	<u>Applicable Emissions Limitations/Control Measures</u>	
OAC rule 3745-17-11(B)(4)	Combined emissions from operating with natural gas and diesel fuel at all loads:	emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a dry basis, based on a rolling, 12-month summation of the monthly NOx emissions in ppm.
40 CFR Part 60 Subpart GG	60.5 TPY PM/PM10* 120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO* 12.2 TPY H2SO4 mist* 0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*	For PM/PM10, SO2, NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.
OAC rule 3745-18-06(F) OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule	* Emissions unit P001-P008, combined for all fuels, based on a rolling, 12-month summation.	See terms A.I.2.b, d, g-j.  10.0 lbs. VOC/hour 0.15 TPY Lead 0.0023 TPY Mercury
40 CFR Part 63.41- 63.44**	0.008 lb PM/PM10/MMBtu 58.0 lbs SO2/hour 196.0 lbs NOx/hour 54.0 lbs CO/hour 6.0 lbs H2SO4 mist/hour	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21, and 40 CFR Part 63.41-63.44.
	15 ppm of NOx by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)	See term A.I.2.a  The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)	42 ppm NOx by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
40 CFR Part 75	0.05 % sulfur (for fuel oil) 0.0456 lbs SO2/MMBtu (for fuel oil)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
	When burning natural gas, the NOx	

**Cinerq**  
**PTI A**

Emissions Unit ID: P001

**Issued: To be entered upon final issuance**

36.4 TPY VOC\*

\* Emissions unit P001-P008,  
combined for all fuels, based  
on a rolling, 12-month  
summation.

\*\* For purposes of this  
permit and for the  
Hazardous Air pollutants  
(HAP)s emitted from this  
emission unit, the best  
available control technology  
determination to satisfy the  
requirements of 40 CFR Part  
52.21 is equivalent to the  
maximum achievable control  
technology determination  
used to satisfy the  
requirements of 40 CFR Part  
63.41 through 63.44. This is  
documented in a letter dated  
1/21/99.

See term A.I.2.k.

See term A.I.2.f

**2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see

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term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.

- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.
- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NO<sub>x</sub>: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM<sub>10</sub>: 9.5 lbs/cycle, 5.7 TPY; SO<sub>2</sub>: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission

Emissions Unit ID: P001

limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NOx: 130 lbs/cycle, 11.6 TPY*;	CO: 354 lbs/cycle, 33.3 TPY*
PM/PM10: 24.0 lbs/cycle, 14.4 TPY	SO2: 38.9 lbs/cycle, 23.4 TPY
OC: 5.1 lbs/cycle, 3.0 TPY	

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NOx continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NOx from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NOx CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NOx) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

## **II. Operational Restrictions**

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be

Emissions Unit ID: P001

determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.

4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.
5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.

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6. The permittee shall install and maintain dry low NOx burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).
7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;

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- e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for the current month plus the total amount of natural gas burned for the previous eleven calendar months); and
  - f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
- a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
- a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> , VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);

Emissions Unit ID: P001

- d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the current month plus the total amount of emissions for the previous eleven calendar months).
  - f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be

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substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

Emissions Unit ID: P001

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

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall

Emissions Unit ID: P001

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 for approval by the Ohio EPA, Central Office.

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

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Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**11. Continuous CO Monitoring**

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is

Emissions Unit ID: P001

considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.

- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
12. Continuous O<sub>2</sub> Monitoring
- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.

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- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

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- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and
  - g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements

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specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.

6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess

Emissions Unit ID: P001  
of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and

Emissions Unit ID: P001

- b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60,

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## Appendix A.

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
  - i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

Emissions Unit ID: P001

Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

6. Emission Limitations:

0.15 TPY of lead emissions; and  
 0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

7. Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

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10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

Ciner  
PTI A

Emissions Unit ID: P001

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

40

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P001

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P002 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

Ciner;  
PTI A

Emissions Unit ID: P002

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	OAC rule 3745-21-07(B)	Applicable Emissions <u>Limitations/Control Measures</u>
	40 CFR Part 75	
OAC rule 3745-17-07(A)		Combined emissions from operating with natural gas and diesel fuel at all loads: 60.5 TPY PM/PM10* 120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO* 12.2 TPY H <sub>2</sub> SO <sub>4</sub> mist* 0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*
OAC rule 3745-17-11(B)(4)		
40 CFR Part 60 Subpart GG		* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.  0.008 lb PM/PM10/MMBtu 58.0 lbs SO <sub>2</sub> /hour 196.0 lbs NO <sub>x</sub> /hour 54.0 lbs CO/hour 6.0 lbs H <sub>2</sub> SO <sub>4</sub> mist/hour
OAC rule 3745-18-06(F)		
OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule		15 ppm of NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)
40 CFR Part 63.41- 63.44**		42 ppm NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)
		0.05 % sulfur (for fuel oil) 0.0456 lbs SO <sub>2</sub> /MMBtu (for fuel oil)
OAC rules 3745-23-06(B)		When burning natural gas, the NO <sub>x</sub> emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a dry basis,

**Ciner;  
PTI A**

Emissions Unit ID: P002

**Issued: To be entered upon final issuance**

based on a rolling, 12-month summation of the monthly NOx emissions in ppm.

For PM/PM10,SO2,NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.

See terms A.I.2.b, d, g-j.

15 TPY Lead  
0.0023 TPY Mercury  
10.0 lbs. VOC/hour

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21, and 40 CFR Part 63.41-63.44.

See term A.I.2.a

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

36.4 TPY VOC\*

\* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.
- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.

Emissions Unit ID: P002

- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO2: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 130 lbs/cycle, 11.6 TPY\*; CO: 354 lbs/cycle, 33.3 TPY\*  
 PM/PM10: 24.0 lbs/cycle, 14.4 TPY SO2: 38.9 lbs/cycle, 23.4 TPY  
 OC: 5.1 lbs/cycle, 3.0 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NOx continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NOx from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NOx CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NOx) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

## **II. Operational Restrictions**

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1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.
5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
6. The permittee shall install and maintain dry low NO<sub>x</sub> burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

Emissions Unit ID: P002

7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

### **III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for the current month plus the total amount of natural gas burned for the previous eleven calendar months); and
  - f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus

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the total amount of diesel fuel burned for the previous eleven calendar months).

5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
  - a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
  
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
  - a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM10, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the

Emissions Unit ID: P002

current month plus the total amount of emissions for the previous eleven calendar months).

- f. the NOx emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NOx emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NOx ppm average for the current month plus the total NOx ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NOx, CO, PM/PM10, SO2 and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NOx, CO, PM /PM10, SO2 and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.
  - c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by

Emissions Unit ID: P002

the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

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

10. Continuous NO<sub>x</sub> Emissions Monitoring

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- a In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.

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- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, 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 for approval by the Ohio EPA, Central Office.
- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

Emissions Unit ID: P002

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

11. Continuous CO Monitoring

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.

**Cinergy - Madison Station**

**PTI Application: 14-04682**

**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P002

- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.

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- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.

**12. Continuous O<sub>2</sub> Monitoring**

- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

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- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.

Emissions Unit ID: P002

- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### **IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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

**Issued: To be entered upon final issuance**

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and
  - g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P002

submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective

**Issued: To be entered upon final issuance**

actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the

61

Cinerq

PTI A

Emissions Unit ID: P002

**Issued: To be entered upon final issuance**

missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee

**Issued: To be entered upon final issuance**

shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

**V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March

Emissions Unit ID: P002

2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.

2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
  - i. 60.5 TPY of PM/PM<sub>10</sub> emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;

- v. 36.4 TPY of VOC emissions;

**Issued: To be entered upon final issuance**

- vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
- vii. 7.7 TPY of benzene emissions.
- viii. 0.00084 TPY of beryllium emissions; and
- ix. 0.012 TPY of arsenic emissions.

## Applicable Compliance Method:

Compliance with the annual PM/PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

## 6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

7 Compliance with the PM/PM<sub>10</sub> emission limitation of 0.008 lb of PM/PM<sub>10</sub>/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM<sub>10</sub> emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

## 8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

Applicable Compliance Method: Compliance with the visible PM limitation shall be determined

66

Cinerq

PTI A

Emissions Unit ID: P002

**Issued: To be entered upon final issuance**

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

**Issued: To be entered upon final issuance**

9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

Ciner  
PTI A

Emissions Unit ID: P002

**Issued: To be entered upon final issuance****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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

69

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P002

Issued: To be entered upon final issuance

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P003 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

Ciner;  
PTI A

Emissions Unit ID: P003

**Issued: To be entered upon final issuance**

	40 CFR Part 75	Applicable Emissions <u>Limitations/Control</u>
		<u>Measures</u>
OAC rule 3745-17-07(A)		Combined emissions from operating with natural gas and diesel fuel at all loads: 60.5 TPY PM/PM10*
OAC rule 3745-17-11(B)(4)		120.8 TPY SO2*
40 CFR Part 60 Subpart GG		733.3 TPY NOx*
OAC rule 3745-18-06(F)		541.0 TPY CO*
OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule		12.2 TPY H <sub>2</sub> SO <sub>4</sub> mist*
40 CFR Part 63.41- 63.44**		0.00084 TPY Beryllium*
OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)		0.012 TPY Arsenic*
		7.7 TPY Benzene*
		* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.
		0.008 lb PM/PM10/MMBtu
		58.0 lbs SO <sub>2</sub> /hour
		196.0 lbs NO <sub>x</sub> /hour
		54.0 lbs CO/hour
		6.0 lbs H <sub>2</sub> SO <sub>4</sub> mist/hour
		15 ppm of NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)
		42 ppm NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)
		0.05 % sulfur (for fuel oil) 0.0456 lbs SO <sub>2</sub> /MMBtu (for fuel oil)
		When burning natural gas, the NO <sub>x</sub> emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a dry basis,

**Ciner;  
PTI A**

Emissions Unit ID: P003

**Issued: To be entered upon final issuance**

based on a rolling, 12-month summation of the monthly NOx emissions in ppm.

For PM/PM10,SO2,NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.

See terms A.I.2.b, d, g-j.

15 TPY Lead  
0.0023 TPY Mercury  
10.0 lbs. VOC/hour

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.

See term A.I.2.a

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

36.4 TPY VOC\*

\* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f.

Emissions Unit ID: P003

**2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.
- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency.

**Issued: To be entered upon final issuance**

The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.

- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NOx: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO2: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NOx: 130 lbs/cycle, 11.6 TPY\*; CO: 354 lbs/cycle, 33.3 TPY\*  
 PM/PM10: 24.0 lbs/cycle, 14.4 TPY SO2: 38.9 lbs/cycle, 23.4 TPY  
 OC: 5.1 lbs/cycle, 3.0 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the

**Issued: To be entered upon final issuance**

best available technology requirements established in Permit to Install 14-04682.

- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NOx continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NOx from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NOx CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NOx) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

**II. Operational Restrictions**

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.

**Cinergy - Madison Station**

**PTI Application: 14-04682**

**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P003

5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
6. The permittee shall install and maintain dry low NOx burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

**Issued: To be entered upon final issuance**

7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P003

the current month plus the total amount of natural gas burned for the previous eleven calendar months); and

**Issued: To be entered upon final issuance**

- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
  - a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
  - a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>,

**Issued: To be entered upon final issuance**

- VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the current month plus the total amount of emissions for the previous eleven calendar months).
- f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before

Emissions Unit ID: P003

they can be used.

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this

**Issued: To be entered upon final issuance**

emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day;, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu).[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P003

the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

**Issued: To be entered upon final issuance**

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**11. Continuous CO Monitoring**

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is

Emissions Unit ID: P003

considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.

- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
12. Continuous O<sub>2</sub> Monitoring
- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P003

- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

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- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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:

**Issued: To be entered upon final issuance**

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

and

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and

- g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOx emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NOx monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions

**Issued: To be entered upon final issuance**

taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

10. The permittee shall submit, on a quarterly basis, the following information:
- a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission

Emissions Unit ID: P003

limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

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Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

## 6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

## 7. Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

## 8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

## 9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P004 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20  The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.
	OAC rule 3745-31-05(A)(3)

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	<u>Applicable Emissions Limitations/Control Measures</u>	
		dry basis, based on a rolling, 12-month summation of the monthly NOx emissions in ppm.
OAC rule 3745-17-07(A)	Combined emissions from operating with natural gas and diesel fuel at all loads: 60.5 TPY PM/PM10*	For PM/PM10, SO2, NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.
OAC rule 3745-17-11(B)(4)	120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO* 12.2 TPY H2SO4 mist*	See terms A.I.2.b, d, g-j.
40 CFR Part 60 Subpart GG	0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*	15 TPY Lead 0.0023 TPY Mercury 10.0 lbs. VOC/hour
OAC rule 3745-18-06(F)	* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation. 0.008 lb PM/PM10/MMBtu 58.0 lbs SO2/hour	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.
OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule	196.0 lbs NOx/hour 54.0 lbs CO/hour 6.0 lbs H2SO4 mist/hour	See term A.I.2.a
40 CFR Part 63.41- 63.44**	15 ppm of NOx by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
	42 ppm NOx by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)	0.05 % sulfur (for fuel oil) 0.0456 lbs SO2/MMBtu (for fuel oil)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
40 CFR Part 75	When burning natural gas, the NOx emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a	36.4 TPY VOC* * Emissions units P001-P008, combined

and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f

**2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.

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- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO2: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 130 lbs/cycle, 11.6 TPY\*; CO: 354 lbs/cycle, 33.3 TPY\*  
 PM/PM10: 24.0 lbs/cycle, 14.4 TPY SO2: 38.9 lbs/cycle, 23.4 TPY  
 OC: 5.1 lbs/cycle, 3.0 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NOx continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NOx from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NOx CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NOx) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

## **II. Operational Restrictions**

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.
5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum

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of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.

6. The permittee shall install and maintain dry low NOx burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

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7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P004

the current month plus the total amount of natural gas burned for the previous eleven calendar months); and

**Issued: To be entered upon final issuance**

- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
  - a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
  - a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> , VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>,

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VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the current month plus the total amount of emissions for the previous eleven calendar months).

- f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before

Emissions Unit ID: P004

they can be used.

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this

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emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day,, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu).[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with

Emissions Unit ID: P004

the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

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Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**11. Continuous CO Monitoring**

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is

Emissions Unit ID: P004

considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.

- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
12. Continuous O<sub>2</sub> Monitoring
- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.

Emissions Unit ID: P004

- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

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- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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:

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

and

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and

- g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all

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data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

Emissions Unit ID: P004

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

Emissions Unit ID: P004

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

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Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

7. Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P004 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P005 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

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	<u>Applicable Emissions Limitations/Control Measures</u>	
	Combined emissions from operating with natural gas and diesel fuel at all loads:	ppm by volume at 15 % oxygen on a dry basis, based on a rolling, 12-month summation of the monthly NOx emissions in ppm.
OAC rule 3745-17-07(A)	60.5 TPY PM/PM10*	For PM/PM10,SO2,NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.
OAC rule 3745-17-11(B)(4)	120.8 TPY SO2*	
	733.3 TPY NOx*	
	541.0 TPY CO*	See terms A.I.2.b,d, g-j.
40 CFR Part 60 Subpart GG	12.2 TPY H2SO4 mist*	
	0.00084 TPY Beryllium*	15 TPY Lead
	0.012 TPY Arsenic*	0.0023 TPY Mercury
	7.7 TPY Benzene*	10.0 lbs. VOC/hour
OAC rule 3745-18-06(F)	* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.
OAC rule 3745-31-05(D)	0.008 lb PM/PM10/MMBtu	
Synthetic Minor to avoid Emission Offset Rule	58.0 lbs SO2/hour	
	196.0 lbs NOx/hour	
	54.0 lbs CO/hour	See term A.I.2.a
40 CFR Part 63.41- 63.44**	6.0 lbs H2SO4 mist/hour	
	15 ppm of NOx by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
	42 ppm NOx by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
OAC rule 3745-23-06(B)	0.05 % sulfur (for fuel oil)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
OAC rule 3745-21-07(B)	0.0456 lbs SO2/MMBtu (for fuel oil)	
40 CFR Part 75	When burning natural gas, the NOx emission rate shall not exceed 12	36.4 TPY VOC*

\* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f.

## **2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NO<sub>x</sub> combustors with a 15 ppm NO<sub>x</sub> emission limit when combusting natural gas, the use of water injection with a 42 ppm NO<sub>x</sub> emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a

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six-minute average when combusting natural gas.

- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO2: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 130 lbs/cycle, 11.6 TPY\*; CO: 354 lbs/cycle, 33.3 TPY\*  
 PM/PM10: 24.0 lbs/cycle, 14.4 TPY SO2: 38.9 lbs/cycle, 23.4 TPY  
 OC: 5.1 lbs/cycle, 3.0 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous

Emissions Unit ID: P005

Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NO<sub>x</sub> continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NO<sub>x</sub> CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NO<sub>x</sub>) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

## **II. Operational Restrictions**

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.

**Issued: To be entered upon final issuance**

5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
  
6. The permittee shall install and maintain dry low NOx burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

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7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P005

the current month plus the total amount of natural gas burned for the previous eleven calendar months); and

**Issued: To be entered upon final issuance**

- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
  - a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
  - a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning

130

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PTI A

Emissions Unit ID: P005

**Issued: To be entered upon final issuance**

natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the current month plus the total amount of emissions for the previous eleven calendar months).

**Issued: To be entered upon final issuance**

- f. the NOx emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NOx emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NOx ppm average for the current month plus the total NOx ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
  - a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NOx, CO, PM/PM10, SO2 and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NOx, CO, PM /PM10, SO2 and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
  - a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.
  - c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Emissions Unit ID: P005

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

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

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, 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 for approval by the Ohio EPA, Central Office.
- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P005

conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

**Issued: To be entered upon final issuance**

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**11. Continuous CO Monitoring**

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is

Emissions Unit ID: P005

considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.

- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
12. Continuous O<sub>2</sub> Monitoring
- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
  - b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring

**Cinergy - Madison Station****PTI Application: 14-04682****Issued****Facility ID: 1409000896**

Emissions Unit ID: P005

system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

**Issued: To be entered upon final issuance**

- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

**IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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:

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

and

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and

- g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NOx values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NOx emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NOx monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions

**Issued: To be entered upon final issuance**

taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.

10. The permittee shall submit, on a quarterly basis, the following information:
- a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission

Emissions Unit ID: P005

limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

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Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the informaion collected and recorded in term A.III.9.

7. Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P005 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied on a letter dated 1/21/99.

**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

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P006 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

Ciner;  
PTI A

Emissions Unit ID: P006

**Issued: To be entered upon final issuance**

	OAC rule 3745-21-07(B) 40 CFR Part 75	<u>Applicable Emissions Limitations/Control Measures</u>
OAC rule 3745-17-07(A)		Combined emissions from operating with natural gas and diesel fuel at all loads:  60.5 TPY PM/PM10* 120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO*
OAC rule 3745-17-11(B)(4)		12.2 TPY H <sub>2</sub> SO <sub>4</sub> mist* 0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*
40 CFR Part 60 Subpart GG		* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.
OAC rule 3745-18-06(F) OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule		0.008 lb PM/PM10/MMBtu 58.0 lbs SO <sub>2</sub> /hour 196.0 lbs NO <sub>x</sub> /hour 54.0 lbs CO/hour 6.0 lbs H <sub>2</sub> SO <sub>4</sub> mist/hour  15 ppm of NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)
40 CFR Part 63.41- 63.44**		42 ppm NO <sub>x</sub> by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)  0.05 % sulfur (for fuel oil) 0.0456 lbs SO <sub>2</sub> /MMBtu (for fuel oil)
OAC rule 3745-23-06(B)		When burning natural gas, the NO <sub>x</sub> emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a dry basis,

**Ciner;  
PTI A**

Emissions Unit ID: P006

**Issued: To be entered upon final issuance**

based on a rolling, 12-month summation of the monthly NOx emissions in ppm.

52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

For PM/PM10,SO2,NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.

36.4 TPY VOC\*

\* Emissions units P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

See terms A.I.2.b, d, g-j.

15 TPY Lead  
0.0023 TPY Mercury  
10.0 lbs. VOC/hour

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.

See term A.I.2.a

See term A.I.2.k.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

See term A.I.2.f

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part

**2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.
- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NO<sub>x</sub>: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*

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PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO<sub>2</sub>: 4.1 lbs/cycle, 2.5 TPY;  
OC: 13.1 lbs/cycle, 7.8 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NO <sub>x</sub> : 130 lbs/cycle, 11.6 TPY*;	CO: 354 lbs/cycle, 33.3 TPY*
PM/PM10: 24.0 lbs/cycle, 14.4 TPY	SO <sub>2</sub> : 38.9 lbs/cycle, 23.4 TPY
OC: 5.1 lbs/cycle, 3.0 TPY	

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NO<sub>x</sub> continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NO<sub>x</sub> CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NO<sub>x</sub>) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

**II. Operational Restrictions**

Emissions Unit ID: P006

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.
5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
6. The permittee shall install and maintain dry low NO<sub>x</sub> burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

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7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

Emissions Unit ID: P006

- the current month plus the total amount of natural gas burned for the previous eleven calendar months); and
- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
- the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
- the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the

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- current month plus the total amount of emissions for the previous eleven calendar months).
- f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.

Emissions Unit ID: P006

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day; except for the purpose of

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test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu).[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, 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 for approval by the Ohio EPA, Central Office.

Emissions Unit ID: P006

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### 11. Continuous CO Monitoring

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO

Emissions Unit ID: P006

monitoring system must be kept on site and available for inspection during regular office hours.

- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.

- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### **IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

- 2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- 3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
- 4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in

Emissions Unit ID: P006

term A.I.2.i when burning natural gas; and

- g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These

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reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

Emissions Unit ID: P006

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

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## 6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the informaion collected and recorded in term A.III.9.

## 7 Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

## 8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

## 9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

## 10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

## 1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P006 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P007 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

Ciner;  
PTI A

Emissions Unit ID: P007

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	<p>OAC rule 3745-21-07(B) 40 CFR Part 75</p>	<p>Applicable Emissions <u>Limitations/Control Measures</u></p>
<p>OAC rule 3745-17-07(A)</p>		<p>Combined emissions from operating with natural gas and diesel fuel at all loads:  60.5 TPY PM/PM10* 120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO* 12.2 TPY H<sub>2</sub>SO<sub>4</sub> mist*</p>
<p>OAC rule 3745-17-11(B)(4)</p>		<p>0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*</p>
<p>40 CFR Part 60 Subpart GG</p>		<p>* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.</p>
<p>OAC rule 3745-18-06(F)</p>		<p>0.008 lb PM/PM10/MMBtu 58.0 lbs SO<sub>2</sub>/hour 196.0 lbs NO<sub>x</sub>/hour 54.0 lbs CO/hour 6.0 lbs H<sub>2</sub>SO<sub>4</sub> mist/hour</p>
<p>OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule</p>		<p>15 ppm of NO<sub>x</sub> by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)</p>
<p>40 CFR Part 63.41- 63.44**</p>		<p>42 ppm NO<sub>x</sub> by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)  0.05 % sulfur (for fuel oil) 0.0456 lbs SO<sub>2</sub>/MMBtu (for fuel oil)</p>
<p>OAC rule 3745-23-06(B)</p>		<p>When burning natural gas, the NO<sub>x</sub> emission rate shall not exceed 12 ppm by volume at 15 % oxygen on a dry basis,</p>

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PTI A**

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based on a rolling, 12-month summation of the monthly NOx emissions in ppm.

For PM/PM10,SO2,NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.

See terms A.I.2.b,d, g-j.

15 TPY Lead  
0.0023 TPY Mercury  
10.0 lbs. VOC/hour

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.

See term A.I.2.a

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21

36.4 TPY VOC\*  
\* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazrdous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f

**2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NOx combustors with a 15 ppm NOx emission limit when combusting natural gas, the use of water injection with a 42 ppm NOx emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average when combusting natural gas.
- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NO<sub>x</sub>: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*

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PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO<sub>2</sub>: 4.1 lbs/cycle, 2.5 TPY;  
OC: 13.1 lbs/cycle, 7.8 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:

NO <sub>x</sub> : 130 lbs/cycle, 11.6 TPY*;	CO: 354 lbs/cycle, 33.3 TPY*
PM/PM10: 24.0 lbs/cycle, 14.4 TPY	SO <sub>2</sub> : 38.9 lbs/cycle, 23.4 TPY
OC: 5.1 lbs/cycle, 3.0 TPY	

\* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NO<sub>x</sub> continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NO<sub>x</sub> CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NO<sub>x</sub>) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

**II. Operational Restrictions**

Emissions Unit ID: P007

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.
5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
6. The permittee shall install and maintain dry low NO<sub>x</sub> burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

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7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

Emissions Unit ID: P007

- the current month plus the total amount of natural gas burned for the previous eleven calendar months); and
- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
- the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
- the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the

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- current month plus the total amount of emissions for the previous eleven calendar months).
- f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.

Emissions Unit ID: P007

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day; except for the purpose of

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test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu).[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, 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 for approval by the Ohio EPA, Central Office.

Emissions Unit ID: P007

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### 11. Continuous CO Monitoring

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO

Emissions Unit ID: P007

monitoring system must be kept on site and available for inspection during regular office hours.

- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.

- a. The permittee shall operate and maintain equipment to continuously monitor and record O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### **IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

- 2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- 3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
- 4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for emissions units P001-P008;
  - f. An identification of all exceedances of the startup and shut down emission limitations in

Emissions Unit ID: P007

term A.I.2.i when burning natural gas; and

- g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These

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reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

Emissions Unit ID: P007

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM10 emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

Applicable Compliance Method:

Compliance with the annual PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

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## 6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the informaion collected and recorded in term A.III.9.

## 7 Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

## 8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

## 9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

## 10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

## 1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P007 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were based on a letter dated 1/21/99.

**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

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P008- 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	<p>40 CFR Part 52.21, and OAC rule 3745-31-11 thru 31-20</p> <p>The requirements of 40 CFR 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.</p>
	OAC rule 3745-31-05(A)(3)

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	Applicable Emissions <u>Limitations/Control Measures</u>	
OAC rule 3745-17-07(A)	Combined emissions from operating with natural gas and diesel fuel at all loads:	ppm by volume at 15 % oxygen on a dry basis, based on a rolling, 12-month summation of the monthly NOx emissions in ppm.
OAC rule 3745-17-11(B)(4)	60.5 TPY PM/PM10*	For PM/PM10, SO2, NOx, CO, H2SO4 mist, Beryllium, Arsenic, and Benzene, best available technology is equivalent to best available controlled technology.
40 CFR Part 60 Subpart GG	120.8 TPY SO2* 733.3 TPY NOx* 541.0 TPY CO* 12.2 TPY H2SO4 mist* 0.00084 TPY Beryllium* 0.012 TPY Arsenic* 7.7 TPY Benzene*	See terms A.I.2.b, d, g-j.  15 TPY Lead 0.0023 TPY Mercury 10.0 lbs. VOC/hour
OAC rule 3745-18-06(F)	* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-11 thru 31-20, OAC rule 3745-17-07(A), OAC rule 3745-31-05(D), 40 CFR Part 52.21 and 40 CFR Part 63.41-63.44.
OAC rule 3745-31-05(D) Synthetic Minor to avoid Emission Offset Rule	0.008 lb PM/PM10/MMBtu 58.0 lbs SO2/hour 196.0 lbs NOx/hour 54.0 lbs CO/hour 6.0 lbs H2SO4 mist/hour	See term A.I.2.a
40 CFR Part 63.41- 63.44**	15 ppm of NOx by volume at 15 % oxygen on a dry basis when firing natural gas (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
	42 ppm NOx by volume at 15 % oxygen on a dry basis when firing No. 2 fuel oil/diesel, (based on a one hour average at full load)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)	0.05 % sulfur (for fuel oil) 0.0456 lbs SO2/MMBtu (for fuel oil)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21
40 CFR Part 75	When burning natural gas, the NOx emission rate shall not exceed 12	36.4 TPY VOC*

\* Emissions unit P001-P008, combined and for all fuels, based on a rolling, 12-month summation.

\*\* For purposes of this permit and for the Hazardous Air pollutants (HAP)s emitted from this emission unit, the best available control technology determination to satisfy the requirements of 40 CFR Part 52.21 is equivalent to the maximum achievable control technology determination used to satisfy the requirements of 40 CFR Part 63.41 through 63.44. This is documented in a letter dated 1/21/99.

See term A.I.2.k.

See term A.I.2.f.

## **2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule when combusting diesel fuel.
- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by the use of dry low NO<sub>x</sub> combustors with a 15 ppm NO<sub>x</sub> emission limit when combusting natural gas, the use of water injection with a 42 ppm NO<sub>x</sub> emission limit when combusting diesel fuel, limited startup and shutdown cycles, - the resultant demonstration of Best Available Control Technology (BACT) that also resulted in an equivalent demonstration to satisfy the requirements of 112g of the Clean Air Act (see term A.I.1 above and the letter dated 1/21/99 referenced in that term for the specifics), and limited natural gas and diesel fuel usage.
- 2.c** The hourly emission limitation(s) outlined in term A.I.1. for SO<sub>2</sub>, PM, PM<sub>10</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a

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six-minute average when combusting natural gas.

- 2.e** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable. Except as provided for in the terms and conditions in this permit, the permittee is not exempt from meeting any additional requirements of 40 CFR Part 60 Subpart GG.
- 2.f** The permittee shall comply with the applicable requirements of 40 CFR Part 75 concerning acid rain. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.g** "Full load" shall be defined as the electrical output at the maximum achievable fuel flow rate to the emissions unit for the ambient and equipment conditions during any operating hour. Any actual electrical output within 10% of the calculated electrical output shall be considered full load.
- 2.h** "Startup/shutdown operation" or "startup and shutdown operation" occurs when the emissions unit is running at less than 60% of the electrical output at full load.
- 2.i** When burning only natural gas the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 83 lbs/cycle, 32.0 TPY\*; CO: 308 lbs/cycle, 125.0 TPY\*  
 PM/PM10: 9.5 lbs/cycle, 5.7 TPY; SO2: 4.1 lbs/cycle, 2.5 TPY;  
 OC: 13.1 lbs/cycle, 7.8 TPY
- \* Compliance with these values shall be demonstrated by the use of dual range Continuous Emission Monitors (CEM).
- 2.j** When burning only No. 2 fuel oil (diesel) the following startup and shutdown emission limitations shall not be exceeded for emissions units P001-P008. Annual emissions are, based on a rolling, 12-month summation:
- NOx: 130 lbs/cycle, 11.6 TPY\*; CO: 354 lbs/cycle, 33.3 TPY\*  
 PM/PM10: 24.0 lbs/cycle, 14.4 TPY SO2: 38.9 lbs/cycle, 23.4 TPY  
 OC: 5.1 lbs/cycle, 3.0 TPY

\* Compliance with these values shall be demonstrated by the use of dual range Continuous

Emissions Unit ID: P008

Emission Monitors (CEM).

- 2.k** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.
- 2.l** In lieu of the requirements of 40 CFR Part 60.334(a) (Subpart GG) to install and operate a continuous monitoring system to monitor the ratio of water to fuel being fired in each turbine, the permittee shall install and operate NO<sub>x</sub> continuous emissions monitoring system for this emissions unit.
- 2.m** In lieu of monitoring the nitrogen content of the natural gas being fired in the turbine as required by 40 CFR 60 Subpart GG [section 60.334(b)], the permittee shall install and operate systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit.
- 2.n** In lieu of monitoring the stack gas flowrate as required by 40 CFR Part 60, Appendix B - Performance Specification 6, the permittee shall use certified NO<sub>x</sub> CEMs in conjunction with a fuel flow monitor as described in 40 CFR Part 75, and certified CO CEMs in conjunction with a fuel flow monitor (in a manner similar to that used for NO<sub>x</sub>) to meet these requirements. The relative accuracy requirements of Performance Specification 6 shall apply.

## **II. Operational Restrictions**

1. The maximum annual pipeline natural gas usage rate for emissions units P001-P008 shall not exceed  $2.03 \times 10^{10}$  cubic feet per year, based upon a rolling, 12-month summation of the natural gas usage rate. The company has existing records, therefore first year monthly natural gas amounts are not necessary.
2. The maximum annual diesel fuel usage rate for emissions units P001-P008 shall not exceed  $3.40 \times 10^7$  gallons per year, based upon a rolling, 12-month summation of the diesel fuel usage rate. The company has existing records, therefore first year monthly diesel fuel amounts are not necessary.
3. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0456 lb SO<sub>2</sub>/MMBtu of actual heat input. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil as outlined in Term A.III.9.
4. The combined number of startup/shutdown cycles per year for emissions units P001-P008 combined shall not exceed 1200 (based on 150 cycles per turbine) when burning natural gas and 280 startup and shutdown cycles (based on 35 cycles per turbine) when burning distillate oil. Each startup and shutdown cycle shall not exceed 1.0 hours.

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5. With the exception of startup and shutdown, this emissions unit shall be operated at a minimum of 60% load. The permittee may petition the Hamilton County Department of Environmental Services to operate at a greater load range if it can demonstrate to the agency's satisfaction that the emissions unit will comply with all applicable emission limits in this permit.
  
6. The permittee shall install and maintain dry low NOx burners when burning natural gas and install and maintain a water injection system when burning No.2 fuel oil (diesel).

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7. The permittee shall burn only pipeline natural gas in this emissions unit.
8. This emissions unit shall be constructed such that emissions testing in accordance with 40 CFR Part 60.8 can be accomplished, if required.

**III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than pipeline natural gas and/or diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall install, operate, and maintain equipment to continuously monitor and record the actual fuel flow to this emissions unit when it 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.
3. The permittee shall maintain records that document the following:
  - a. the emissions unit's actual electrical output for each operating hour;
  - b. the calculated load, in percent of full load, for each operating hour;
  - c. all periods of time when the emissions unit was operated at less than 60% of full load.
4. The permittee shall maintain monthly records of the following information in order to monitor compliance with the applicable fuel usage restrictions:
  - a. the total amount of pipeline natural gas burned, in cubic feet, for this emissions unit;
  - b. the total amount of diesel fuel burned, in gallons, for this emissions unit;
  - c. the total amount of pipeline natural gas burned, in cubic feet, for emission units P001-P008 combined;
  - d. the total amount of diesel fuel burned, in gallons, for emissions units P001-P008 combined;
  - e. the rolling, 12-month summation for the total amount of pipeline natural gas burned, in cubic feet, for emissions units P001-P008, combined (the amount of natural gas burned for

Emissions Unit ID: P008

- the current month plus the total amount of natural gas burned for the previous eleven calendar months); and
- f. the rolling, 12-month summation for the total amount of diesel fuel burned in emissions units P001-P008, combined (the amount of diesel fuel burned for the current month plus the total amount of diesel fuel burned for the previous eleven calendar months).
5. The permittee shall maintain monthly records of the following information for emissions units P001-P008 in order to monitor compliance with the startup and shutdown emission limitations and operational restrictions:
- a. the number of startup/shutdown cycles during the month when natural gas is burned for emissions units P001 - P008 combined;
  - b. the number of startup/shutdown cycles during the month when diesel fuel is burned for emissions units P001 - P008 combined;
  - c. the date and duration, in minutes, of each startup/shutdown cycle (the amount of time the turbine operates at an operational load less than 60% of full load);
  - d. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning natural gas at startup and shutdown operation modes; and
  - e. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC when burning diesel fuel at startup and shutdown operation modes.
6. The permittee shall maintain monthly records of the following information for emission units P001- P008 in order to monitor compliance with the rolling, 12- month summation, emissions limitations:
- a. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas at full load operation modes;
  - b. the emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel at full load operation modes;
  - c. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning natural gas for all operational loads (summation of A.III.5.d, plus A.III.6.a);
  - d. the total emissions, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene when burning diesel fuel for all operational modes (the summation of A.III.5.e, plus A.III.6.b);
  - e. the rolling, 12-month summation emissions total, in tons, for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, H<sub>2</sub>SO<sub>4</sub>, and benzene for emission units P001-P008, combined when burning natural gas and diesel fuel (the total amount of emissions calculated in c + d) for the

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- current month plus the total amount of emissions for the previous eleven calendar months).
- f. the NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit; and
  - g. the updated rolling, 12-month summation of NO<sub>x</sub> emissions, in ppm average, when burning natural gas at full load operations for this emissions unit (the NO<sub>x</sub> ppm average for the current month plus the total NO<sub>x</sub> ppm average for the previous eleven calendar months).
7. The permittee shall maintain annual records of the following information for emissions units P001-P008:
- a. the total number of startup and shutdown cycles while burning natural gas for the calendar year (summation of A.III.5.a for each month of the calendar year);
  - b. the total number of startup and shutdown cycles while burning diesel fuel for the calendar year (summation of A.III.5.b for each month of the calendar year);
  - c. the total startup/shutdown emissions while burning natural gas for NO<sub>x</sub>, CO, PM/PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.d for each month of the calendar year); and
  - d. the total startup/shutdown emissions while burning diesel fuel for NO<sub>x</sub>, CO, PM /PM<sub>10</sub>, SO<sub>2</sub> and VOC, in tons, for the calendar year (summation of A.III.5.e for each month of the calendar year).
8. The permittee shall monitor the sulfur content of the fuel being fired in the turbine. The frequency of the monitoring shall be determined as follows:
- a. If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.
  - b. If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom fuel schedules for the determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Ohio EPA, Central Office before they can be used.

Emissions Unit ID: P008

- c. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analyses for sulfur content and heat content.

Analyses for the purpose of determining the sulfur content of the natural gas may be performed by the permittee, the fuel vendor, or any other qualified agency in accordance with the analytical methods specified in 40 CFR Part 60, Subpart GG, Section 60.335(d).

9. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

- a. Alternative 1:

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

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the

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calculated sulfur dioxide emission rate (in lbs/MMBtu).[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]

10. Continuous NO<sub>x</sub> Emissions Monitoring

- a. In lieu of complying with the monitoring and testing provisions of 40 CFR 60.334 and 60.345 to demonstrate compliance with the NO<sub>x</sub> emission limitations, the permittee shall operate and maintain systems to continuously monitor and record emissions of NO<sub>x</sub> from this emissions unit in accordance with this permit.
- b. The permittee shall install, operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.
- c. The permittee shall maintain records of the following data obtained by the continuous NO<sub>x</sub> monitoring system: parts per million (ppm) NO<sub>x</sub> at 15% oxygen, at full load (hourly average), lbs of NO<sub>x</sub>/hour, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- d. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standards in this permit. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- e. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- f. Prior to the installation of the continuous NO<sub>x</sub> monitoring system, 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 for approval by the Ohio EPA, Central Office.

Emissions Unit ID: P008

- g. Certification in pounds NO<sub>x</sub> per hour: Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and 6, and/or 40 CFR Part 75. When NO<sub>x</sub> mass emissions are being determined as allowed in 40 CFR Part 75, Appendix F, certification testing to show compliance with 40 CFR Part 60, Appendix B, Performance Specification 6 shall not be necessary. However, a stack test shall be conducted to show 40 CFR Part 75, Appendix F, NO<sub>x</sub> mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75.

- h. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### 11. Continuous CO Monitoring

- a. The permittee shall install, operate and maintain equipment to continuously monitor and record CO from this emissions unit in lbs CO/hour and in the units of any other applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- b. The permittee shall maintain records of all data obtained by the continuous CO monitoring system including, but not limited to, ppm CO at a minimum of 15-minute intervals, emissions of CO in units of the applicable standard in the appropriate averaging period (hourly), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office

hours.

- d. A statement of certification of the existing continuous CO monitoring system shall be maintained on site and shall consist of a letter from Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 4. Proof of certification shall be made available to the Hamilton County Department of Environmental Services - Air Quality Control Division upon request.
- e. Prior to installation of the continuous CO monitoring system, 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 4 for approval by the Ohio EPA, Central Office.
- f. Certification in pounds CO per hour: Within 60 days of the effective date of this permit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous CO monitoring system pursuant to ORC section 3704.03(I), 40 CFR Part 60, Appendix B, Performance Specification 4. CO mass emissions may be determined in the same manner as NO<sub>x</sub> emissions in term A.III.10. of this permit using the appropriate CO values in place of the cited NO<sub>x</sub> values. When CO mass emissions are being determined in this manner, certification testing to show compliance with 40 CFR 60, Appendix B, Performance Specification 6 will not be necessary. However, a stack test shall be conducted for CO mass determinations with an accuracy that is equivalent to that required in PS6.

Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 4.

- g. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous CO monitoring system designed to ensure continuous valid and representative readings of CO. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.
12. Continuous O<sub>2</sub> Monitoring
    - a. The permittee shall operate and maintain equipment to continuously monitor and record

Emissions Unit ID: P008

O<sub>2</sub> from this emissions unit, in percent O<sub>2</sub>. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 and/or 40 CFR Part 75.

- b. The permittee shall maintain records of all data obtained by the continuous O<sub>2</sub> monitoring system including, but not limited to, percent O<sub>2</sub> at a minimum of 15-minute intervals, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.
- c. Prior to the installation of the continuous O<sub>2</sub> monitoring system, 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 3 for approval by the Ohio EPA, Central Office.
- d. Within 60 days of the startup of this emissions unit, but not later than 180 days after the initial startup of this emissions unit, the permittee shall conduct certification tests of the continuous O<sub>2</sub> monitoring system pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3, and/or 40 CFR Part 75. Personnel from the Hamilton County Department of Environmental Services - Air Quality Control Division 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, all copies of the test results shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days after the test is completed. Certification of the continuous O<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3 and/or 40 CFR Part 75.
- e. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous O<sub>2</sub> monitoring system designed to ensure continuous valid and representative readings of O<sub>2</sub> emissions in units of the applicable standard. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and/or 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous O<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

#### **IV. Reporting Requirements**

1. Pursuant to the NSPS, the source owner/operator 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

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- 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

Department of Environmental Services  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than pipeline natural gas or diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit quarterly reports that identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(g) is in effect. The report shall include the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time when the air pollution control system was reactivated.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. An identification of all exceedances of the rolling, 12-month pipeline natural gas usage rate for emissions units P001-P008;
  - b. An identification of all exceedances of the rolling, 12-month emission limitations for PM/PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> mist, VOC and benzene;
  - c. An identification of all exceedances of the sulfur content (i.e. 0.05%, by weight) of the fuels (pipeline natural gas and diesel fuel) received for burning in this emissions unit;
  - d. An identification of all exceedances of the 1.0 hour startup/shutdown cycle operational restriction;
  - e. An identification of all exceedances of the rolling, 12-month diesel fuel usage rate for

Emissions Unit ID: P008

emissions units P001-P008;

- f. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.i when burning natural gas; and
  - g. An identification of all exceedances of the startup and shut down emission limitations in term A.I.2.j when burning Number 2 fuel oil.
5. All quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii unless otherwise specified.
  6. Pursuant to OAC rules 3745-15-04 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO<sub>x</sub> values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO<sub>x</sub> emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous NO<sub>x</sub> monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County

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Department of Environmental Services - Air Quality Control Division documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of CO values in excess of any applicable limitation(s) specified in the terms and conditions of this permit, in units of the standard. These reports shall also contain the total CO emissions for the calendar quarter (in tons), including all data collected during start-up and shutdown periods or generated pursuant to the missing data procedures specified in 40 CFR Part 75.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Hamilton County Department of Environmental Services - Air Quality Control Division documenting any continuous CO monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions 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, 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, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report. The summary shall be submitted to the Hamilton County Department of Environmental Services - Air Quality Control Division within 30 days following the end of the calendar quarter.

8. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental

Emissions Unit ID: P008

Services within 45 days after the deviation occurs.

9. The permittee shall also submit annual reports that specify the total PM/PM10, VOC, SO<sub>2</sub>, benzene and H<sub>2</sub>SO<sub>4</sub> emissions from this emissions unit for the calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
10. The permittee shall submit, on a quarterly basis, the following information:
  - a. the total number of startup and shutdown cycles when natural gas was burned; and
  - b. the total number of startup and shutdown cycles when diesel fuel was burned .

These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the previous calendar quarters.

## **V. Testing Requirements**

1. Compliance with the startup and shutdown emissions limitations shall be demonstrated by the use of emissions data as submitted in the PTI modification application 14-04682, submitted March 2001 and emissions factors from the background document, Reference 16, for Stationary Internal Combustion Sources in AP-42, Table 3.4-1. Compliance with the TPY emission limitations shall be determined by the record requirements specified in Section A.III.5.
2. Compliance with the ppm and pounds per hour per year NO<sub>x</sub> and CO emission limitations specified in A.I.1 shall be demonstrated by the NO<sub>x</sub> and CO continuous emission monitoring system data collected and recorded in Section A.III.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A and the equation specified in 40 CFR Part 60.334(c)(1).

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

3. Compliance with the sulfur content restriction of 0.05%, by weight, for diesel oil shall be determined using standard methods as required in 40 CFR Part 60.335 and the information collected and recorded in Sections A.III.8 and A.III.9.

Compliance with the SO<sub>2</sub> emission limit of 0.456 lb/MMBtu for diesel fuel shall be demonstrated by the sulfur analyses of the fuels combusted (see term A.III.8 and 9) and by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation and lb/MMBtu limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

Emissions Unit ID: P008

4. The hourly emissions limitations for H<sub>2</sub>SO<sub>4</sub> and VOC are at the emissions units potential to emit. However :

If required, the permittee shall demonstrate compliance with the hourly H<sub>2</sub>SO<sub>4</sub> mist emission limitation through emission tests performed in accordance with Methods 1-4 and 8 of 40 CFR Part 60, Appendix A.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Emission Limitations: The total emissions from emission units P001-P008 combined shall not exceed the following TPY emission limitations, based on a rolling, 12-month summations:
- i. 60.5 TPY of PM/PM<sub>10</sub> emissions;
  - ii. 120.8 TPY of SO<sub>2</sub> emissions;
  - iii. 733.3 TPY of NO<sub>x</sub> emissions;
  - iv. 541.0 TPY of CO emissions;
  - v. 36.4 TPY of VOC emissions;
  - vi. 12.2 TPY of H<sub>2</sub>SO<sub>4</sub> mist emissions;
  - vii. 7.7 TPY of benzene emissions.
  - viii. 0.00084 TPY of beryllium emissions; and
  - ix. 0.012 TPY of arsenic emissions.

Applicable Compliance Method:

Compliance with the annual PM/PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, H<sub>2</sub>SO<sub>4</sub> and VOC TPY emission limitations specified above shall be determined by the record keeping requirements specified in Section A.III.6 and compliance with the appropriate requirements of term V.1.

Compliance with the annual beryllium, arsenic and benzene emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the information collected and recorded in term A.III.9.

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## 6. Emission Limitations:

0.15 TPY of lead emissions; and  
0.0023 TPY of mercury emissions.

Applicable Compliance Method: Compliance with the TPY lead and mercury emission limitations specified above may be determined by multiplying the pollutant specific emission factor found in AP-42, Fifth Edition, Section 3.1 "Stationary Gas Turbines," updated 4/00, by the amount of fuel collected and recorded in term A.III.4 (for natural gas) and term A.III.4 (for diesel fuel) by the heat content of the each fuel employed. The heat content for diesel fuel oil shall be taken from the informaion collected and recorded in term A.III.9.

## 7 Compliance with the PM/PM10 emission limitation of 0.008 lb of PM/PM10/MMBtu may be determined by the manufacturer's guaranteed emissions data found in PTI 14-4682 submitted April 26, 1999.

If required, the permittee shall demonstrate compliance with the PM/PM10 emission limitation through emission tests performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

## 8. Visible PM Limitation: Visible PM from any stack shall not exceed 20% opacity, as a six-minute average, except as specified by rule, when burning diesel fuel.

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

## 9. Visible PM Limitation: Visible PM from any stack shall not exceed 10% opacity, as a six-minute average, when burning pipeline natural gas.

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

## 10. Compliance with the pipeline natural gas and diesel fuel usage restrictions shall be determined by the record keeping requirements specified in term A.III.4.

**VI. Miscellaneous Requirements**

## 1. The terms and conditions in this permit to install shall supersede permit to install 14-04682 issued on July 14, 1999 for this emissions unit.

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P008 - 80 Megawatt (Nominal) Simple-Cycle Combustion Turbine No.1 - modified	OAC rule 3745-31-28	The requirements of this rule were satisfied based on a letter dated 1/21/99.

**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

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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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P009 17.21 MMBtu/hour (1.5 Megawatt) Emergency Diesel Generator #1	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)(5)(b) OAC rule 3745-18-06(G)  OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)  40 CFR Part 52.21 and OAC rule 3745-31-11 thru 31-20	OAC rule 3745-31-05(D) Synthetic Minor to avoid Emissions Offset Rule
	OAC rule 3745-31-05(A)(3)	

211

**Ciner;  
PTI A**

Emissions Unit ID: P009

**Issued: To be entered upon final issuance**

Applicable Emissions  
Limitations/Control  
Measures

See term A.I.2.a

0.062 lb  
PM-PM10/MMBTU

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21.

See term A.I.2.c.

0.27 TPY PM-PM10\*  
6.95 lbs SO<sub>2</sub>/hour  
1.74 TPY SO<sub>2</sub>\*  
55.07 lbs NO<sub>x</sub>/hour  
13.77 TPY NO<sub>x</sub>\*  
14.63 lbs CO/hour  
3.66 TPY CO\*

1.41 lbs VOC/hour

For PM-PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC, best available technology is equivalent to best available control technology.

0.35 TPY VOC\*  
\* Based on a rolling, 12-month summation of the monthly emissions.

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
- 2.b** The hourly emission limitations specified above are based on the emission unit's potential to emit. Therefore, it is not necessary to develop any additional monitoring, record keeping or reporting requirements to ensure compliance with these emission limitations.
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.

**II. Operational Restrictions**

- 1. The maximum annual operating hours for this emissions unit shall not exceed 499, based upon a rolling, 12-month summation of the operating hours.
- 2. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation.

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

- 3. The permittee shall burn only diesel fuel in this emissions unit.

**III. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain monthly records of the following information:
  - a. The operating hours for each month.
  - b. The rolling, 12-month summation of the operating hours.
- 2. For each day during which the permittee burns a fuel other than No. 2 diesel fuel, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
- 3. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBTU).

213

**Cinergy - Madison Station**

**PTI Application: 14-04682**

**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P009

[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the

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same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

a. Alternative 1:

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

b. Alternative 2:

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

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the

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- rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
  3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii. unless otherwise specified.
  4. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.

**V. Testing Requirements**

1. Compliance with the PM/PM10 emission limit shall be demonstrated by the manufacturer's guaranteed emissions data.
  - a. The PM/PM10 TPY emission limitation was established by multiplying the allowable emissions 0.062 lbs of PM emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour and 499 hours per year and dividing by 2000. Actual PM/PM10 emissions shall be calculated using the actual hours of operation per year.
2. Compliance with the visible emission limitation in term A.I.2.a. shall be determined by visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Test Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
3. Compliance with 6.95 pounds SO<sub>2</sub> / hour emission limit shall be demonstrated by the use of AP-42 Table 3.4-1 and the records required pursuant to Section A.III. The lbs of SO<sub>2</sub> emissions/hour emission limitation was established by multiplying the emission factor of 1.01(S) lbs of SO<sub>2</sub>/mmBtu by the maximum heat input of 17.21 mmBtu/hour, where S is the sulfur content of the fuel. Compliance with this emission limitation shall be based upon

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. Compliance with the NO<sub>x</sub>, CO and VOC emission limits shall be demonstrated by the use of AP-42, Fifth Edition, Section 3.4, "Large Stationary Diesel Engines", Table 3.4-1, dated 10/96. .

Emissions Unit ID: P009

- a. The lbs. of NOx emissions/hour emission limitation was established by multiplying the emission factor of 3.2 lbs of NOx emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. Nox emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

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

- b. The lbs of CO emissions/hour emission limitation was established by multiplying the emission factor of 0.85 lb of CO emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. CO emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

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

- c. The lbs of VOC emissions/hour emission limitation was established by multiplying the emission factor of 0.09 lb of VOC emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. VOC emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Compliance with the hours of operation limitation in term A.II.1 shall be demonstrated by the recordkeeping in term A.III.1.

## **VI. Miscellaneous Requirements**

None

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P009 - 17.21 MMBtu/hour (1.5 Megawatt) Emergency Diesel Generator #1		

**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

218

**Cinergy - Madison Station**  
**PTI Application: 14-04682**  
**Issued**

**Facility ID: 1409000896**

Emissions Unit ID: P009

Ciner  
PTI A

Emissions Unit ID: P010

Issued: To be entered upon final issuance

**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-31-05(D) Synthetic Minor to avoid Emissions Offset Rule
P010 - 17.21 MMBtu/hour (1.5 Megawatt) Emergency Diesel Generator #1	OAC rule 3745-17-07(A)	
	OAC rule 3745-17-11(B)(5)(b)	
	OAC rule 3745-18-06(G)	
	OAC rule 3745-23-06(B)	
	OAC rule 3745-21-07(B)	
	40 CFR Part 52.21 and OAC rule 3745-31-11 thru 31-20	
	OAC rule 3745-31-05(A)(3)	

220

Ciner;

PTI A

Emissions Unit ID: P010

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Applicable Emissions  
Limitations/Control  
Measures

See term A.I.2.a

0.062 lb  
PM-PM10/MMBTU

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21.

See term A.I.2.c.

0.27 TPY PM-PM10\*  
6.95 lbs SO<sub>2</sub>/hour  
1.74 TPY SO<sub>2</sub>\*  
55.07 lbs NO<sub>x</sub>/hour  
13.77 TPY NO<sub>x</sub>\*  
14.63 lbs CO/hour  
3.66 TPY CO\*

1.41 lbs VOC/hour

For PM-PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC, best available technology is equivalent to best available control technology.

0.35 TPY VOC\*

\* Based on a rolling, 12-month summation of the monthly emissions.

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule
- 2.b** The hourly emission limitations specified above are based on the emission unit's potential to emit. Therefore, it is not necessary to develop any additional monitoring, record keeping or reporting requirements to ensure compliance with these emission limitations.
- 2.c** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.

**II. Operational Restrictions**

- 1. The maximum annual operating hours for this emissions unit shall not exceed 499, based upon a rolling, 12-month summation of the operating hours.
- 2. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation.

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

- 3. The permittee shall burn only diesel fuel in this emissions unit.

**III. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain monthly records of the following information:
  - a. The operating hours for each month.
  - b. The rolling, 12-month summation of the operating hours.
- 2. For each day during which the permittee burns a fuel other than No. 2 diesel fuel, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
- 3. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBTU).

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[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

a. Alternative 1:

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

b. Alternative 2:

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

**IV. Reporting Requirements**

**Cinergy - Madison Station****PTI Application: 14-04682****Issued****Facility ID: 1409000896**

Emissions Unit ID: P010

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii. unless otherwise specified.

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4. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.

**V. Testing Requirements**

1. Compliance with the PM/PM10 emission limit shall be demonstrated by the manufacturer's guaranteed emissions data.
  - a. The PM/PM10 TPY emission limitation was established by multiplying the allowable emissions 0.062 lbs of PM emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour and 499 hours per year and dividing by 2000. Actual PM/PM10 emissions shall be calculated using the actual hours of operation per year.
2. Compliance with the visible emission limitation in term A.I.2.a. shall be determined by visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Test Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
3. Compliance with 6.95 pounds SO<sub>2</sub> / hour emission limit shall be demonstrated by the use of AP-42 Table 3.4-1 and the records required pursuant to Section A.III. The lbs of SO<sub>2</sub> emissions/hour emission limitation was established by multiplying the emission factor of 1.01(S) lbs of SO<sub>2</sub>/mmBtu by the maximum heat input of 17.21 mmBtu/hour, where S is the sulfur content of the fuel. Compliance with this emission limitation shall be based upon

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. Compliance with the NO<sub>x</sub>, CO and VOC emission limits shall be demonstrated by the use of AP-42, Fifth Edition, Section 3.4, "Large Stationary Diesel Engines", Table 3.4-1, dated 10/96.
  - a. The lbs. of NO<sub>x</sub> emissions/hour emission limitation was established by multiplying the emission factor of 3.2 lbs of NO<sub>x</sub> emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. Nox emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> mist emission

Emissions Unit ID: P010

limitation through emission tests performed in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A.

- b. The lbs of CO emissions/hour emission limitation was established by multiplying the emission factor of 0.85 lb of CO emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. CO emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

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

- c. The lbs of VOC emissions/hour emission limitation was established by multiplying the emission factor of 0.09 lb of VOC emissions/mmBtu by the maximum heat input of 17.21 mmBtu/hour.

The lb/hr. VOC emissions are multiplied by the annual hours of operation and divided by 2000 to obtain the TPY emissions.

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

5. Compliance with the hours of operation limitation in term A.II.1 shall be demonstrated by the recordkeeping in term A.III.1.

## **VI. Miscellaneous Requirements**

None

Ciner  
PTI A

Emissions Unit ID: P010

**Issued: To be entered upon final issuance****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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P010 - 1.5 Megawatt diesel generator No. 2		

**2. Additional Terms and Condition**

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

Ciner;  
PTI A

Emissions Unit ID: P011

**Issued: To be entered upon final issuance****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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P011 - 1.6 MMBtu/hour (140 kilowatt) Emergency Diesel Fire Pump	OAC rule 3745-17-07(A)	See term A.I.2.a
	OAC rule 3745-17-11(B)(5)(a)	0.310 lb PM-PM10/MMBTU of actual heat input
	OAC rule 3745-18-06(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 52.21.
	OAC rule 3745-23-06(B) OAC rule 3745-21-07(B)	See term A.I.2.d.
	40 CFR Part 52.21, OAC rule 3745-31-05** and OAC rule 3745-31-11 thru 31-20	0.04 TPY PM-PM10 0.65 lbs SO <sub>2</sub> /hour 0.16 TPY SO <sub>2</sub> 5.14 lbs NO <sub>x</sub> /hour
	** The requirements of 40 CFR Part 52.21 for purposes of this permit are equivalent to OAC rule 3745-31-05.	1.28 TPY NO <sub>x</sub> 1.37 lbs CO/hour 0.34 TPY CO 0.13 lbs VOC/hour 0.03 TPY VOC

**2. Additional Terms and Conditions**

- 2.a Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-

Emissions Unit ID: P011

minute average, except as specified by rule.

- 2.b** Compliance with OAC rule 3745-31-15, 40 CFR Part 52.21 and OAC rule 3745-31-05 shall be demonstrated by limiting the hours of operation of this emissions unit.
- 2.c** The hourly emission limitations specified above are based on the emission unit's potential to emit. Therefore, it is not necessary to develop any additional monitoring, record keeping or reporting requirements to ensure compliance with these emission limitations.
- 2.d** The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06 and 3745-21-07(B) respectively by committing to comply with the best available technology requirements established in Permit to Install 14-04682.

## **II. Operational Restrictions**

- 1. The maximum annual operating hours for this emissions unit shall not exceed 500, based upon a rolling, 12-month summation of the operating hours.
- 2. The quality of diesel fuel burned in this emissions unit shall have a combination of heat and sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation.

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

- 3. The permittee shall burn only diesel fuel in this emissions unit.

## **III. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain monthly records of the following information:
  - a. The operating hours for each month.
  - b. The rolling, 12-month summation of the operating hours.
- 2. For each day during which the permittee burns a fuel other than No. 2 diesel fuel, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
- 3. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBTU). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

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

a. Alternative 1:

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

b. Alternative 2:

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

#### **IV. Reporting Requirements**

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

30 days after the deviation occurs.

3. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions A.1.c.ii. unless otherwise specified.
4. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section A.III above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.

#### **V. Testing Requirements**

1. Compliance with the PM/PM10 emission limit shall be demonstrated by the manufacturer's guaranteed emissions data.
2. Compliance with the visible emission limitation in term A.I.2.a. shall be determined by Method 9, 40 CFR Part 60 Appendix A.
3. Compliance with 0.65 pounds SO<sub>2</sub> / hour emission limit shall be demonstrated by the use of AP-42 Table 3.4-1 and the records required pursuant to Section A.III. The lbs of SO<sub>2</sub> emissions/hour emission limitation was established by multiplying the emission factor of 1.01(S) lbs of SO<sub>2</sub>/mmBtu by the maximum heat input of 17.21 mmBtu/hour, where S is the sulfur content of the fuel. Compliance with this emission limitation shall be based upon

If required, the permittee shall demonstrate compliance with the hourly SO<sub>2</sub> emission limitation through emission tests performed in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

4. Compliance with the NO<sub>x</sub>, CO and VOC emission limits shall be demonstrated by the use of AP-42 Table 3.4-1.
5. Compliance with the hours of operation limitation in term A.II.1 shall be demonstrated by the recordkeeping in term A.III.1.

#### **VI. Miscellaneous Requirements**

None

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**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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P011 - 140 Kilowatt Emergency Diesel Fire Pump		

**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