



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
LUCAS COUNTY**

CERTIFIED MAIL

Street Address:

50 West Town Street, Suite 700

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 04-01485

Fac ID: 0448010737

DATE: 2/12/2008

City of Toledo/Div.of Water Reclamation
Michael Schreidah
3900 N. Summit Street
Toledo, OH 43611

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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

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

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

TDES



**Permit To Install
Terms and Conditions**

**Issue Date: 2/12/2008
Effective Date: 2/12/2008**

FINAL PERMIT TO INSTALL 04-01485

Application Number: 04-01485
Facility ID: 0448010737
Permit Fee: **\$400**
Name of Facility: City of Toledo/Div.of Water Reclamation
Person to Contact: Michael Schreidah
Address: 3900 N. Summit Street
Toledo, OH 43611

Location of proposed air contaminant source(s) [emissions unit(s)]:
**3900 North Summit Street
Toledo, Ohio**

Description of proposed emissions unit(s):
Installation of a combustion turbine and heat recovery steam generator for cogeneration project.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. Scheduled Maintenance/Malfunction Reporting

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

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

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

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 its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit 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.

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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.

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13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

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

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder.

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The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or 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.

5. Construction of New Sources(s)

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

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

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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 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., postmarked), 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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
CO	159.9 (92.3 increase)
NOx	132.8 (104.2 increase)
SO2	32.0 (1.8 increase)
VOC	20.63 (3.01 increase)

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

None

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.

Operations, Property, and/or Equipment - (P109) - Natural Gas/Digester Gas/Landfill Gas powered combustion turbine for combined cycle cogeneration system

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
56.1 mmBtu/hr natural gas/digester gas/landfill gas combustion turbine	
OAC rule 3745-31-05(A)(3)	Visible particulate emissions from all egress points shall not exceed 10% opacity as a 6-minute average, except during start-up and shutdown. Carbon monoxide (CO) emissions shall not exceed 29.2 lb/hr and 127.9 tpy. Nitrogen oxide (NOx) emissions shall not exceed 18.0 lb/hr and 78.9 tpy. Volatile organic compound (VOC) emissions shall not exceed 3.3 lb/hr and 14.5 tpy. See sections A.I.2.a, 2.b and 2.e.
ORC 3704.03(T)(3)	See section A.I.2.d.
OAC rule 3745-17-07(A)(1)	The emissions limitation specified by this rule is less stringent than the emissions limitation established by OAC rule 3745-31-05(A)(3)
OAC rule 3745-17-11(B)(4)	Particulate emissions (PE) from the turbine's exhaust shall not exceed 0.040 pound per million Btu of actual heat input.
OAC rule 3745-18-06(F)	The emissions limitation specified by this rule is less stringent than the emissions limitation established by OAC rule 3745-31-05(A)(3)
OAC rule 3745-21-08(B)	See section A.I.2.d.

<p>NSPS KKKK</p>	<p>SO2 emissions shall not exceed 110 nanograms per Joule (0.90 pounds per mega-Watt hour) or 26 ng SO2/J (0.060 lb SO2/MMBtu).</p> <p>NOx concentration limits shall not exceed 25 ppm at 15 percent oxygen or 690 ng/J of useful output (1.2 lb/MWh) while firing natural gas.</p> <p>NOx concentration limits shall not exceed 74 ppm at 15 percent oxygen or 460 ng/J of useful output (3.6 lb/MWh) while firing fuels other than natural gas.</p>
<p>65.3 mmBtu/hr natural gas heat recovery steam generator (hrsg)</p>	
<p>OAC rule 3745-31-05(A)(3)</p>	<p>Visible particulate emissions from all egress points shall not exceed 10% opacity as a 6-minute average, except during start-up and shutdown.</p> <p>Carbon monoxide (CO) emissions shall not exceed 7.31 lb/hr and 32.0 tpy.</p> <p>Nitrogen oxide (NOx) emissions shall not exceed 12.3 lb/hr and 53.9 tpy.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 1.40 lb/hr and 6.13 tpy.</p> <p>See sections A.I.2.a, 2.b. and 2.e.</p>
<p>ORC 3704.03(T)(3)</p>	<p>See section A.I.2.c.</p>
<p>OAC rule 3745-17-07(A)(1)</p>	<p>The emissions limitation specified by this rule is less stringent than the emissions limitation established by OAC rule 3745-31-05(A)(3)</p>
<p>OAC rule 3745-17-10(A)(1)(a)</p>	<p>Particulate emissions (PE) from the hrsg's exhaust shall not exceed 0.020 pound per million Btu of actual heat input.</p>
<p>OAC rule 3745-18-06(A)</p>	<p>Exemption for fuel burning equipment during any calendar day in which natural gas is the only fuel burned.</p>
<p>OAC rule 3745-21-08(B)</p>	<p>See section A.I.2.d.</p>

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NSPS KKKK	<p>SO₂ emissions shall not exceed 110 nanograms per Joule (0.90 pounds per mega-Watt hour) or 26 ng SO₂/J (0.060 lb SO₂/MMBtu).</p> <p>NO_x concentration limits shall not exceed 25 ppm at 15 percent oxygen or 690 ng/J of useful output (1.2 lb/MWh) while firing natural gas.</p> <p>NO_x concentration limits shall not exceed 74 ppm at 15 percent oxygen or 460 ng/J of useful output (3.6 lb/MWh) while firing fuels other than natural gas.</p>
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2. Additional Terms and Conditions

- 2.a** The combined emissions of sulfur dioxide (SO₂) from the turbine and heat recovery steam generator shall not exceed 7.28 pounds per hour and 32.0 tons per year
- 2.b** The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- 2.c** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM₁₀ emissions from this air contaminant source since the uncontrolled potential to emit for PM₁₀ is less than 10 tons per year.
- 2.d** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745- 21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-21-08, the requirement to satisfy the "best available control

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techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The requirements of this rule also includes compliance with 40 CFR Part 60 Subpart KKKK.

II. Operational Restrictions

1. The permittee shall only burn natural gas, digester gas or landfill gas in the combustion turbine.
2. The permittee shall only burn natural gas in the hrsg.
3. P109 shall not be in operation at any time during which emissions units P105 and P106 are in use.

III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, digester gas or landfill gas in the combustion turbine, the permittee shall maintain a record of the type and quantity of fuel burned in the combustion turbine.
2. For each day during which the permittee burns a fuel other than natural gas in the hrsg, the permittee shall maintain a record of the type and quantity of fuel burned in the hrsg.
3. For each day during which the permittee operates P109 while either P105 or 106 is in use, the permittee shall maintain a record of the period (in hours) of simultaneous operation.
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
5. For emission points for which the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check of such emission point by the permittee or an

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Ohio EPA inspector indicates abnormal emissions, the frequency of emissions checks shall revert to daily for that emission point until such time as there are 30 consecutive operating days of normal visible emissions.

6. If using water or steam injection to control NOX emissions in compliance with 40 CFR 60.4335:
 - a. the permittee shall install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water or steam to fuel being fired in the turbine when burning a fuel that requires water or steam injection for compliance; or

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- b. the permittee shall use continuous emission monitoring, as follows:
 - i. install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO_x monitor and a diluent gas (oxygen (O₂) or carbon dioxide (CO₂)) monitor, to determine the hourly NO_x emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and
 - ii. for units complying with the output-based standard, install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to the affected unit; and
 - iii. for units complying with the output-based standard, install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the unit in megawatt-hours; and
 - iv. for combined heat and power units complying with the output-based standard, install, calibrate, maintain, and operate meters for useful recovered energy flow rate, temperature, and pressure, to continuously measure the total thermal energy output in British thermal units per hour (Btu/hr).
7. If not using water or steam injection to control NO_x emissions in compliance with 40 CFR 60.4340:
 - a. the permittee shall perform annual performance tests to demonstrate continuous compliance: or
 - b. the permittee shall install, calibrate, maintain and operate one of the following continuous monitoring systems:
 - i. continuous emission monitoring as described in 60.4335(b) and 60.4345, or
 - ii. continuous parameter monitoring as described in 60.4340(b)(2).
8. Prior to the installation of the continuous NO_x 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 Specifications 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous NO_x monitoring system meets the requirements of Performance Specification 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the director (the

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Toledo Division of Environmental Services) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

9. In accordance with 40 CFR Part 60.4335, within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions in units of the applicable standard(s). 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 NO_x monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

10. At the frequencies prescribed in 40 CFR 60.4370, the permittee shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 60.4365. The sulfur content of the fuel shall be determined using total sulfur methods described in 60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 60.17), which measure the major sulfur compounds, may be used.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, digester gas and/or landfill gas was burned in the combustion turbine. Each report shall be submitted within 30 days after the deviation(s) occurs.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas in the hrsg. Each report shall be submitted within 30 days after the deviation(s) occurs.
3. The permittee shall submit deviation (excursion) reports that identify each day when the permittee operates P109 while either P105 or 106 is in use. Each report shall be submitted within 30 days after the deviation(s) occurs.
4. The permittee shall submit semiannual written reports that (a) identify all days during

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which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31 and July 31 of each year and shall cover the previous six-month periods.

5. The permittee shall submit semi-annual deviation (excursion) reports of excess NO_x or SO₂ emissions and monitor downtime, in accordance with 60.7(c), 60.4380 and 60.4385. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
6. The deviation reports shall be submitted semi-annually by January 30 and July 30 of each year and shall cover the previous 6 calendar months. If no deviations occurred during a calendar semester, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period. These reports shall be submitted to the Toledo Division of Environmental Services, 348 South Erie Street, Toledo, Ohio 43604.

V. Testing Requirements

1. Compliance with the emissions limitation(s) and in section A.I. of the terms and conditions of this permit shall be determined in accordance with the following method(s):

- 1.a Emission Limitation:

Visible particulate emissions from all egress points related to the combustion turbine shall not exceed 10% opacity as a 6-minute average, except during start-up and shutdown

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- 1.b Emission Limitation:

CO emissions from the combustion turbine shall not exceed 29.2 pounds per hour

Applicable Compliance Method:

This emissions limitation was developed utilizing the manufacturer's supplied worst case emission factor of 29.2 pounds per hour.

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If required, the permittee shall demonstrate compliance with this emissions limitation using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.c Emissions Limitation:

CO emissions from the combustion turbine shall not exceed 127.9 tons per year

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Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 29.2 pounds of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.d Emission Limitation:

NOx emissions from the combustion turbine shall not exceed 18.0 pounds per hour

Applicable Compliance Method:

This emissions limitation was developed based on a one-time worst case emissions calculation utilizing the emission factor listed in AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-1, rev. 10/00, Large Stationary Turbines (0.32 lb NOx/mmBtu) by the maximum rated capacity of the combustion turbine (56.1 MMBtu/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-4 and Method 7 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

1.e Emissions Limitation:

NOx emissions from the combustion turbine shall not exceed 78.9 tpy NOx

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 18.0 pounds of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.f Emissions Limitation:

PE from the combustion turbine's exhaust shall not exceed 0.040 pound per million Btu of actual heat input.

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Applicable Compliance Method:

Compliance may be determined through the worst case emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.1, Table 3.1-2b, rev. 10/00, Large Stationary Turbines (0.023 lb PM10/mmBtu for landfill gas), multiplied by the ratio of PE to PM10 in Table 3.1-2a (1.9:6.6).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-4 and Method 5 of 40 CFR, Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

1.g Emission Limitation:

VOC emissions from the combustion turbine shall not exceed 3.3 pounds per hour

Applicable Compliance Method:

This emissions limitation was developed utilizing the manufacturer's supplied worst case emission factor of 3.3 pounds per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 25 or 25A of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.h Emission Limitation:

VOC emissions from the combustion turbine shall not exceed 14.5 tons per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 3.3 pounds of VOC per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.i Emission Limitation:

CO emissions from the heat recovery steam generator shall not exceed 7.31 pounds per hour

Applicable Compliance Method:

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This emissions limitation was developed utilizing the manufacturer's supplied worst case emission factor of 7.31 pounds per hour. If required, the permittee shall demonstrate compliance with this emissions limitation using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.j Emissions Limitation:

CO emissions from the heat recovery steam generator shall not exceed 32.0 tons per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 7.31 pounds of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.k Emission Limitation:

NOx emissions from the heat recovery steam generator shall not exceed 12.31 pounds per hour

Applicable Compliance Method:

This emissions limitation was developed utilizing the manufacturer's supplied worst case emission factor of 7.31 pounds per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-4 and Method 7 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

1.l Emissions Limitation:

NOx emissions from the heat recovery steam generator shall not exceed 53.9 tpy NOx

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as

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follows: multiply the short term emission rate of 12.31 pounds of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.m Emissions Limitation:

PE from the heat recovery steam generator exhaust shall not exceed 0.020 pound per million Btu of actual heat input.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 1.9 pounds of PE per million standard cubic feet by a heating value of 1020 Btus per standard cubic foot.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(9). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.n Emission Limitation:

VOC emissions from the heat recovery steam generator shall not exceed 1.4 pounds per hour

Applicable Compliance Method:

This emissions limitation was developed utilizing the manufacturer's supplied worst case emission factor of 1.4 pounds per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 25 or 25A of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.o Emission Limitation:

VOC emissions from the heat recovery steam generator shall not exceed 6.13 tons per

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year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.4 pounds of VOC per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.p Emission Limitation:

The combined emissions of SO₂ from the turbine and heat recovery steam generator shall not exceed 7.28 pounds per hour.

Applicable Compliance Method:

This emissions limitation was developed based on a one-time worst case emissions calculation utilizing the emission limitation of NSPS KKKK (0.060 lb SO₂/MMBtu) multiplied by the summation of the maximum rated capacities of the combustion turbine (56.1 mmBtu/hr) and the hrsg (65.3 mmBtu/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.q Emission Limitation:

The combined emissions of SO₂ from the turbine and heat recovery steam generator shall not exceed 32.0 tons per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 7.28 pounds of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

1.r Emission Limitation:

The NO_x concentration limits from the turbine and heat recovery steam generator shall not exceed shall not exceed 25 ppm at 15 percent oxygen or 690 ng/J of useful output (1.2 lb/MWh) while firing natural gas, or 74 ppm at 15 percent oxygen or 460 ng/J of useful output (3.6 lb/MWh) while firing fuels other than natural gas.

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Applicable Compliance Method:

The permittee shall demonstrate compliance through monitoring of the total NOx concentrations performed in accordance with 40 CFR 60.4335 or 60.4340. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

1.s Emission Limitation:

The combined emissions of SO₂ from the turbine and heat recovery steam generator shall not exceed SO₂ emissions shall not exceed 110 nanograms per Joule (0.90 pounds per mega-Watt hour) or 26 ng SO₂/J (0.060 lb SO₂/MMBtu)..

Applicable Compliance Method:

The permittee shall demonstrate compliance through monitoring of the total sulfur content of the fuel combusted in this emission unit performed in accordance with 40 CFR 60.4360. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

2. Within 60 days after achieving the maximum production rate of which this emissions unit will be operated but not later than 180 days startup of this emissions unit, the permittee shall conduct, or have conducted performance testing for this unit in accordance with the following requirements:
 - 2.a The emissions testing shall be conducted to demonstrated compliance with the allowable mass emissions rates (lb/hr and NSPS concentrations) for CO, NO_x and SO₂.
 - 2.b The following test methods shall be employed to demonstrate compliance with the allowable mass emissions rate(s)
 - i. CO; Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.
 - ii. NO_x; Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A and/or compliance with 40 CFR 60.4400. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

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- iii. SO₂: Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A and/or compliance with 40 CFR 60.4415. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.
- 2.c The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. If 90-100 percent of peak load cannot be physically achieved in practice, the highest achievable maximum is acceptable. A capacity restriction may be added to the permit requiring retesting should the emission unit regularly exceed by greater than 10%, the maximum capacity established during the emissions test.
- 2.d Personnel from the Toledo Division of Environmental Services office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provides a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- 2.e A comprehensive written report on the results of the emissions test(s) shall be submitted to the Toledo Division of Environmental Services within 30 days following 30 days following completion of the test(s).

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.

Operations, Property, and/or Equipment - (P109) - Natural Gas/Digester Gas/Landfill Gas powered combustion turbine for combined cycle cogeneration system

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05	None

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None